

How
Germany
Makes War

Friedrich
von Bernhardi



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HOW GERMANY MAKES WAR

FRIEDRICH VON BERNHARDI

HOW GERMANY MAKES WAR

BY

FRIEDRICH VON BERNHARDI ✓

GENERAL OF CAVALRY (RETIRED)

Author of "Germany and the Next War"

NEW YORK

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EDITOR'S PREFACE

GENERAL VON BERNHARDI'S book "On War of To-day" is one of the most important military works that have appeared in recent years. It is of special interest at the present moment as an exposition of the ideas underlying the German plans for the war with the Allies, and the methods on which the German staff rely in their operations in the field.

The book is an attempt to show how war can be successfully conducted with the enormous masses of men now thrown into a conflict between nations, the armies of millions that put the whole fighting power of a people into the battle line. General von Bernhardi insists that while certain fundamental principles of war must always hold good, their practical application has to be considerably modified now that these "armies of masses" are brought into action, and have to employ weapons and appliances more efficient than any which were used in earlier wars.

The book was written for experts, and all serious students of war should read the complete translation of the work issued last year by Mr. Hugh Rees. But many readers will be glad to have the condensed version of General Bernhardi's treatise contained in the following pages. Some of the more technical details of the original work have been omitted; but nothing has been thus set aside which affects the writer's main argument. So, too, a choice has been made among the numerous examples from military history by which

he illustrates it. The more interesting of these are given; for the others the reader can refer to the complete translation. Throughout, the author's own words are used, only here and there a more familiar expression is substituted for one which would not be so easily understood by a reader unacquainted with the technical phraseology of German military literature.

The work is none the less interesting because the General does not always slavishly follow the theory of the German Army Regulations. He boldly departs from the mere letter of these when he has to show what must happen in the conflict of great armies in the field. The reader will of course understand that the opinions General Bernhardt expresses as to the policy of our own and other Governments and their action in the past are given without comment or correction, though Englishmen will in many instances regard the view thus put forward as hardly consistent with the facts as we know them. He is writing as a leader of German military opinion for German readers, and looks at matters from a standpoint hostile to ourselves. As we read his words we must remember this. The book is a revelation of German policy as well as of German ideas on the way in which war should be conducted with modern weapons and under the new conditions of to-day.

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AUTHOR'S INTRODUCTION

IN the following pages I have tried to summarize as briefly as possible the results of many years of study and of preliminary labours with a view to furnishing the reader with a survey of all that concerns the conduct of modern war. Much has been written on the various branches of the science of war. But a book embracing them all and showing their relative dependency seems to be wanting; and yet it is only by distinguishing and appreciating their connection with the whole science that the true value of each branch can be properly gauged. I think that with this book I have filled a gap in military literature.

I think that I am serving progress by my work, and that I am at the same time in harmony with the best traditions of our glorious past. It was always *timely* progress which has led us to victory, and has given us from the outset a certain amount of superiority over our adversaries. Such a superiority we must try to gain all the more in future as well, since it is only too likely that, with the present state of affairs in the world, we may be forced to fight against superior numbers, while, on the other hand, our most vital interest will be at stake. The political situation as it is to-day makes us look upon such a war even as a necessity, on which the further development of our people depends.

Germany supports to-day 65,000,000 inhabitants on

an area about equal the size of France, whilst only 40,000,000 live in France. Germany's enormous population increases annually by about 1,000,000. There is no question, agriculture and industry of the home country cannot give permanently sufficient employment to such a steadily increasing mass of human beings. We therefore need to enlarge our colonial possessions so as to afford a home and work to our surplus population, unless we wish to run the risk of seeing again the strength and productive power of our rivals increased by German emigration as in former days. Partitioned as the surface of the globe is among the nations at the present time, such territorial acquisitions we can only realize at the cost of other States or in conjunction with them; and such results are possible only if we succeed in securing our power in the centre of Europe better than hitherto. With every move of our foreign policy to-day we have to face a European war against superior enemies. This sort of thing is becoming intolerable. The freedom of action of our people is thereby hampered to an extraordinary degree. Such a state of affairs is highly dangerous, not only for the peace of Europe, which, after all, is only a secondary matter for us, but, above all, is most dangerous to ourselves. It is we, whose economical, national, and political development is being obstructed and injured; it is we, whose position in the world is being threatened after we have purchased it so dearly with the blood of our best. We must therefore strive to find out by all means who is for or who is against us. On this depends not only the possibility of carrying into execution the political aims befitting the greatness and the wants of our country, but also the very existence of our people as a civilized nation.

Hand in hand with the increase of population and the growth of political power, resulting from our struggles for a united Germany, trade and industry rose to an extent hardly experienced by any nation before. Germany's output in brainwork is at the same time greater than that of any other people. Our prominent importance as a civilizing nation is plain to everybody since the German clans have joined hands to form one powerful State. We ourselves have become conscious of being a powerful, as well as a necessary, factor in the development of mankind. This knowledge imposes upon us the obligation of asserting our mental and moral influence as much as possible, and of paving the way everywhere in the world for German labour and German idealism. But we can only carry out successfully these supreme civilizing tasks if our humanizing efforts are accompanied and supported by increasing *political* power, as evinced by enlarged colonial possessions, extended international commerce, increased influence of Teutonic culture in all parts of the globe, and, above all, by a perfect safeguarding of our political power in Europe.

Opposed to these efforts are the most powerful States of Europe. France wants to take revenge for 1870-71, and regain its old political hegemony. Russia has a lively interest in not allowing our strength to increase any further, so that she may pursue her political plans in the Near and Far East undisturbed by Germany. Russia may also, perhaps, dream of a future supremacy in the Baltic. If at the present moment—weakened as she is by recent events in the Far East—she seems to pursue pacific tendencies, she is sure to return to her policy of aggression sooner or later. And, finally, England is particularly hostile,

towards us, in addition to France. The phenomenal development of our commerce and industry may in time become dangerous even to the British oversea trade; the tremendous increase of our navy is felt as a constant menace on the other side of the Channel, at least should England be involved in a great war elsewhere.

We can be certain that Great Britain will most seriously resist any real extension of Germany's power, which, however, does not include the acquisition of some Central African territories.*

It is possible that in case of war we will have to face all these enemies single-handed. At least, we must be prepared for this. The Triple Alliance is purely defensive. Neither Austria nor Italy are bound by treaty to support us in all cases of war or under all circumstances. In so far as their own advantage is not touched, they take no interest in Germany's world-politics; and it must at any rate be left an open question whether their statesmen will always be far-sighted enough to make the lasting advantage of their States the pole of their policy even at the risk of a war. We are thus, in all that is essential, dependent on our own strength, and must plainly see that on the power of our defensive forces alone depends, not only our future development, but our very existence as one of the great Powers of Europe.

It is true the world is dominated to-day by the idea of war being an antiquated means of policy, unworthy of a civilized nation. The dream of eternal peace has got a hold on vast sections of the community in the Old and particularly in the New World. Whereas, formerly, in addition to Emanuel Kant, only enthusiasts and visionaries were the champions

* Written in September, 1911.

of universal brotherhood, the Governments of great and powerful States have now seized this idea as well, and are cloaking themselves with the mantle of a superior humanity. The arbitration courts, which the contracting Powers engage to obey, are meant not only to lessen the dangers of war, but to remove them altogether. This is the publicly avowed object of such politics. In reality, it is hardly caused by an ideal love of peace, but is evidently meant to serve quite different political purposes.

It is obvious that, above all, all *those* States are interested in such treaties, who wish to cover their rear so as to be able to pursue the more undisturbed and ruthlessly their advantages on other parts of the world's stage; and from this argument at once follows that such treaties, where not confined to some distinctly limited spheres of right, are only a disguise to conceal other political aims, and are apt to promote just that war, perhaps, which they pretend it is their intention to prevent.

We Germans, therefore, must not be deceived by such official efforts to maintain the peace. Arbitration courts must evidently always consider the existing judicial and territorial rights. For a rising State, which has not yet attained the position due to it, which is in urgent need of colonial expansion, and can only accomplish it chiefly at the cost of others, these treaties therefore augur ill at once as being apt to prevent a rearrangement of power. In the face of this widespread peace propaganda, and in opposition to it, *we* must firmly keep in view the fact that no arbitration court in the world can remove and settle any really great tension that exists and is due to deep-seated national, economical, and political antagonism; and that, on the other hand, it is impossible to change

the partition of the earth as it now exists in our favour by diplomatic artifices. If we wish to gain the position in the world that is due to us, we must rely on our sword, renounce all weakly visions of peace, and eye the dangers surrounding us with resolute and unflinching courage.

In the situation we are in, absolutely necessitating an extension of power, and requiring us to force our claims in the face of superior enemies, I think the law of self-preservation ought to have dictated to us an increase of our defensive forces by all means available, so as to throw into the scale at the decisive moment the full strength of our 60,000,000 populace. This we have not considered necessary. Universal service, which formed the basis for our military and political greatness, is the law with us, it is true, but we have not enforced it, as a matter of fact, for a long time, because we shirk the sacrifice we ought to make in the interest of our armed forces and of our future. The further development of our army in proportion with the growth of our population is completely paralysed for the next five years by a law of the Empire. We seem to have forgotten that a policy, to be successful, must be backed by force, and that on the other hand the physical and moral health of a nation depends on its martial spirit. We have accustomed ourselves to looking upon our armaments as a heavy burden, borne unwillingly, forgetting thereby that the army is the well from which our people constantly draws afresh strength, self-sacrificing spirit, and patriotism. In the hour of danger we shall have to pay in blood for what we have neglected in peace, from want of willingness to make some sacrifice.

But we have to reckon with all these circumstances as given factors. The enmities surrounding us can-

not be exorcized by diplomacy. Armaments, under modern conditions, cannot be improvized at will the moment they are wanted. It seems impossible to get ahead of our rivals in matters technical. So much more, therefore, must we take care of maintaining spiritual superiority in case of war, and of making good, by will-power on the one hand, and by the skill of our operations on the other, the superiority in material and personnel possessed by our likely adversaries.

The more we study the nature of the art of war, and the more fully the army is alive to what is essential in war in general, and in the conduct of modern war in particular, the more uniformly and to the point will every portion of our army co-operate in war, and the greater will be the mental and moral superiority we shall gain over our enemies.

CHAPTER I

THE SECRET OF MODERN WAR

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THE nature of modern war is not a simple matter. It is subject to numerous modifications according to the character of the contending parties and of the various theatres of war. It is altogether different when we are fighting in the Balkans or in Manchuria, when Russians are fighting against Japanese, or Spaniards against Riff-Kabyles. The fundamental principles of war certainly remain the same, wherever it is waged; but special conditions cause in each case special methods of employment of the fighting forces, and these latter, again, will frequently differ.

If we are moving with forces of some size in a desolate, roadless, or mountainous country, we are obliged to adopt proceedings altogether different from those obtaining in a vast, slightly undulating plain, where railways and a well-built and extensive network of roads abound. Again, things will be different if we carry on war with small armies in a country little cultivated, like the English in South Africa, or are operating with armies of the size of those of the Great European Military Powers in a richly cultivated and densely populated theatre of war.

It is this latter sort of war which we are concerned with most, for it is such a war we ourselves will have to wage, and this kind of war it is that stares us in

the face like an inscrutable sphinx. There seems to be no doubt that, in a war like this, forces will assert themselves which we have no experience to gauge, and the effect of which we can scarcely properly realize. Whole nations are called up to take the field against each other. They are going to fight with arms of patterns more perfect than ever before. The proportionate numbers of infantry, artillery, and cavalry are quite different from those of former times. Means of transport will be used to an extent and of such a perfect type as we have never seen used before by any army in the field. Every technical means is pressed into the service to facilitate communication. Even the air must be conquered; dirigible balloons and flying machines will form quite a new feature in the conduct of war. The question also arises how modern permanent fortification will affect the combat. It seems that all trade and industry must stop, when every capable youth is called away from work. It has been said that the effect of modern arms is such as to incapacitate the weakened nervous system of the highly civilized nations of Mid-Europe to resist this effect for any length of time. And lastly, we must also weigh the influence of naval warfare on what is going on on land, and what its effect will be on the whole campaign. The course of events at sea may mean starvation for the population. In short, a future war will reveal to us a series of seemingly incalculable forces. One might almost come to think that success in war will be more or less a matter of chance, which can in no way be influenced by foresight; that the will of the commander may be, so to say, switched off in the uncontrollable play of these tremendous forces; that we can only call up these forces, and then leave it to the mere effect of their

powers, to produce whatever they choose from this turmoil.

I think it is not so, after all. If we closely examine the possible effect of all the new phenomena which in a future war must assert themselves, and then test them in their relation to the general laws of warfare, we must succeed in getting a general idea of the nature of modern war, and in ascertaining a method by which we can act most suitably.

It is true there are still experienced and prominent soldiers who think that, in spite of all changes in armaments, Moltke's strategy and conduct of war is the last word on the subject, and that it is now merely a question of finding out by what principles Moltke acted, so as to be prepared for successful military operations in future as well.


I do not think that such an interpretation corresponds at all to Moltke's spirit and genius. The very way *he* acted seems to prove the truth that in every war we must make use of the lessons of the past only in so far as we can apply them to, or modify them in accordance with, the changed conditions of our time. He, of all men, was the one who worked with an open mind at all that concerns the conduct of war. He never disregarded the lessons of any war, nor was he satisfied with them alone. He was ever looking ahead, to turn to account new developments.

That is the way he has shown us. We are not to rest satisfied with what he has thought and done, but to go on unfettered, turning to account fresh developments. We are to examine the conditions under which a future war must be conducted without blindly believing in authorities, and, from what Moltke and the German wars of unification have taught us, to

develop new ideas and principles according to modern requirements.

"How the actual operations will turn out next," writes the Field-Marshal in a memorial of November, 1861, concerning a future campaign,* "becomes more uncertain, indeed, the further we trace their progress. Yet we may consider the most likely contingencies, because they always start from given and permanently existing conditions. Experience of former wars must not be neglected, but is no safe guide for our days. Fifty years or a century have since passed and changed the political and strategical situation. . . . To arrive at the result intended, the only way left to us is to try to anticipate in outline the military events of the future, and get thoroughly acquainted with the present conditions. Here we have to reckon partly with unknown and changeable factors, yet, on the other hand, often with known and permanent ones. We cannot arrive at a result *correct in all essentials*, but we can ascertain what is *probable*, and this, in war, is always the only basis on which we can found our measures."

What the Field-Marshal expresses here seems to be of a more general application, I think, than he meant it to be. What he says of the "actual operations" applies to war in general; for is not war experience the only possible foundation of military knowledge, the material, as it were, of which theory is in need for a scientific structure of a doctrine of war, whilst the changed conditions and new phenomena of the moment always create, by their presumable future development, new factors, which in actual warfare peremptorily demand consideration? But the past, the present, and the future are invariably dominated

* Moltke's "Military Correspondence," Part iii, No. 4. 

by the general laws which are always and everywhere inherent in war as a social phenomenon.

If, therefore, we wish to recognize the probable character of a future war and the new demands it will make on its *conduct*, we must proceed from the two-fold point of view which Moltke considers necessary to adopt in weighing matters.

By the lessons which we learn from military history and our own experiences of war we must try to discern "the permanent factors" with which we have to reckon, and the laws of development. This is the only way we have for further guidance of what in war is altogether possible and feasible. War experience alone enables us to become aware of all the frictions, moral influences, chances, and personal elements in war, which all are of far-reaching importance, and almost completely beyond theoretical appreciation. But we must next closely examine under what external and internal conditions a future war must probably be conducted; how the conduct of war will be affected by the changes in military matters since we gained our last experiences in war; what effects these changes will produce. We must examine how far the results of our up-to-date war experiences will be influenced by these new phenomena, and we must try to find out in what directions this kind of influence is likely to assert itself. In this way alone can we succeed in ascertaining the conditions that will probably obtain in the next war, and in gaining some guiding rules for our action.

But that is just the point. It is not enough for us to discern the nature of modern war, and thus to some extent satisfy a theoretical want; we rather wish to be able to develop from this knowledge a doctrine for acting in the field—a law, as it were, of future victory.

If we survey the history of those wars, the course of which we can judge in some measure, we become aware of many instances where fighting dragged along without leading to a final and decisive issue. Neither side displays any special faculties that might turn the scale one way or the other. The result is then mostly some compromise between the belligerents which leaves matters pretty well as they were before, or the issue is brought about by the gradual wearing down of the weaker party. In other wars, on the contrary, a real issue is rapidly come to between two armies of apparently equal strength. Often it is the numerically weaker army which obtains the most decisive victory. When this happens, it is either a great Captain whose genius has turned the scale, or it is some particular circumstance which gave victory to the one party—a happy coincidence of favourable conditions; a numerical or tactical superiority; a special kind of armament; a moral superiority inherent in the character of an army; or a superior principle of acting. Where such peculiar advantages are placed in the hands of a great general who understands how to make a thorough use of them, success is, of course, all the greater. Our own Prussian history shows us repeatedly examples confirming the correctness of this view.

Under Frederic William I it was discerned that the fire of infantry was the decisive factor in action. Fire tactics were therefore brought up to an extraordinary degree of perfection. The introduction of the iron ramrod proved exceedingly advantageous to increasing the rapidity of fire. The Prussian infantry is said to have delivered ten rounds * per minute even at that

* Must be a misprint. Never known it more than five.—
Translator.

time. But rapidity of fire of that kind, and the precision of all movements as a *sine qua non* to it, were only possible with an iron discipline and a training which no other army could boast of to an equal degree of perfection. The Prussian infantry moved in rigid formations in an order which never failed even under the greatest stress, and thereby, as well as by its fire, proved superior to all its enemies.

Frederic the Great next recognized, immediately after the first battle he took part in, that fire and order alone would decide nothing if they were not accompanied by a resolute offensive. In further developing fire tactics, on the one hand by concentrating artillery at the decisive points, and, on the other, by making the power of fire everywhere subservient to the most determined offensive, he created a new factor of superiority over his adversaries, which asserted itself the more decisively, since he raised at the same time the manœuvring power of his troops to such a height that no other hostile army could equal him therein. He further saw that cavalry was only of tactical value, under the conditions then prevailing, if it understood how to make use of the speed of the horse by a vigorous charge. By making this idea the leading principle of cavalry tactics, he made the Prussian cavalry the most victorious in the world. And, finally, in opposition to the learned strategists of his time, he saw the inexorable nature of war. Everywhere, wherever he possibly could, he tried, strategically as well as tactically, to bring matters to a most decisive issue, giving expression to this idea also in the form of his attack. Only by thus accumulating the actual factors of superiority did he succeed in fighting victoriously against a world in arms.

But the linear tactics which had developed in this

way degenerated after Frederic's death into a system of artificialities, without any practical value. Over the mechanical art of leading troops the spirit of the principle and guiding idea was lost; strategy, too, set up the wildest systems. With this the Prussian army lost its all-conquering superiority. This became at once apparent in the wars of Frederic William II. The soundness of the troops, it is true, enabled them to be victorious on the battlefield, but the conduct of the war on the whole was wanting the great decisive features which result only from a clear perception of war's real nature. The conduct of war lost itself more and more in conventional forms, which were bound to have an effect all the more disadvantageous as the tactics were defective too and did not meet the new demands originating from the revolutionary wars.

In this way all the factors gradually disappeared which had made the Prussian army victorious. The wars dragged along without any decisive issue until Bonaparte appeared and brought into the conduct of war a new element of superiority. By opposing brute force to the learned and conventional mode of conducting war in his time, and by aiming at the utmost attainable with the simplest means, the great Corsican became irresistible to the armies of his age, until these in turn made use of his same principles against him, and until, by means of the Prussian army, recruited from the people by universal service, a new weapon was forged which, above all, proved superior through an idealism peculiar to that army.

This acquisition it was which led humiliated Prussia to renewed victories. By retaining universal service after the war, while all other States returned to the old system of professional armies, Prussia once more acquired a powerful superiority over her rivals. This,

superiority was enhanced by Prussia alone recognizing in time the importance of breech-loading arms and taking advantage of their greater efficiency. The result was the brilliant victories of 1866 and 1870-71.

It does not seem likely that under modern conditions we shall be favoured once more by Fortune in a similar manner. All the States on the Continent of Europe have introduced universal service, and have thus formed national armies; all over the world are in use the most modern and most effective weapons; everywhere a most prolific use is made of every technical appliance; everywhere in Europe the training of the troops is most zealously attended to, and the preparedness for war perfected to the utmost. A decided superiority of one army over any other can no longer be attained under these conditions. Nor can we count upon a stroke of good fortune as we had in our last wars, where a Bismarck conducted our policy, and a Moltke our armies; just as little dare we rely on the favour of special circumstances like, perhaps, a lucky political constellation, which statecraft might take advantage of with bold resolution. It may be we have, as a counterweight against the probable numerical superiority of our likely adversaries, other advantages to throw into the scale; above all an officers' corps, as no other army has, with an imperturbable offensive spirit and a uniformity of mind and feeling of duty which guarantee the steadfast and resolute actions of everybody. Yet these are imponderable forces, which it is impossible to look upon as fixed factors in the reckoning, and against which must be set off the national advantages of our adversaries. Who is there that will deny, for instance, the high military qualities possessed by the French ✓

soldier, or the stubborn and often-tried power of resistance of the Russians?

If it is thus impossible for us to gain a numerical or material superiority, and if, on the other hand, we have no right to claim a moral superiority for our army as a distinct asset of power, the question is forced upon us, whether it may not be possible to gain a start on our adversaries by some other means which might vouchsafe us the possibility of victory over these stronger enemies? The answer to that question we can only gather from the experiences of the past.

If we study the campaigns of great soldiers and examine the causes of their victories, we shall find that in the first instance always moral qualities enforced victory. Superior resolution, boldness, daring, and steadfastness paralysed the energy of the enemy, and carried forward the victorious troops to the performance of extraordinary deeds.

It must, however, be well understood *that it was not the superiority of the procedure by itself* which insured victory; the mode of action *became only superior in reference to that of the opponent* and to the *whole of the conditions governing war at the time*. Frederic the Great won his daring offensive battles because his adversaries faced him mostly with an inactive defensive, and were unable to paralyse his bold manœuvres by suitable counter-moves, embarrassed as they were by the rigid forms and views of warfare of their time. Napoleon gained his splendid victories over the inadequate strategy and tactics of his opponents; and the principle of envelopment of Moltke's era led to success simply because the enemy did not adopt suitable counter-measures.

These reflections show us that it is above all a ques-

tion of *discerning the weak points* inherent in the modern military system and conduct of war. Only by recognizing this fact may we succeed in arriving at a standard of action which will ensure us a *superiority* on which we can rely.

He who fully sees and completely masters the difficulties arising from modern conditions in the conduct of war; he who has a clear and detailed insight into what can be done with modern war-appliances and what not, and how these must be used, therefore, to have the maximum effect; what, on the other hand, we must avoid, so as not to upset the powerful mechanism of a modern army; he who by reason of such intelligence has arrived at clear and definite principles of acting, and is perfectly aware of *the decisive factors leading to success, particularly under modern conditions*—he will, at the outbreak of war, obtain a distinct superiority over an adversary, who from the outset either acts on wrong principles, or tries only in war itself to arrive at that clearness which he was unable to attain by his mental work in peacetime. This kind of superiority is, however, very much enhanced if we apply the knowledge we have obtained to the preparation for war, which, in fact, is already part of the conduct of war itself. The execution of what has been recognized as the most suitable is then greatly facilitated, and to the mental superiority, which reveals itself in the method of action, a material superiority is added. *That* side will be superior in a way its opponent can scarcely retrieve, which, well aware of the decisive importance of the subject, has striven for, and has obtained, superiority by working for it in peacetime.

If, for instance, it should be proved that the command of the air will be the decisive factor in a future

war, the army possessing the most effective aerial fleet would evidently have a decided advantage, though in other less important departments it may be inferior to its adversary.

It is, therefore, not a question of competing with our likely enemies in all the various branches without distinction, such as raising huge armies, increasing artillery and ammunition, improving heavy artillery and siege trains, extending the railway system, and employing every modern technical appliance. A competition like this would be ultimately decided by financial superiority, which we scarcely possess. We must rather exert ourselves to prepare for war in a distinct direction, and to gain superiority not in every branch, but in the one we have recognized as decisive, whilst taking a correct view of all other important branches.

Much independence of thought and determination is required of him who acts in this spirit in a responsible position and stakes success in war, so to say, on one card. All depends, then, on whether a future war has been correctly estimated. Every error in decisive questions must prove fatal. Yet it is the only possible way for obtaining an unquestionable superiority, and almost every great captain has followed it.

All the more is it necessary to see perfectly clear in these matters by studying them thoroughly. We must resolutely get rid of the influence of conventional views and opinions, extend and thoroughly sift in every department the ideas we are forming about a future war, trace to their utmost limit the consequences of all that may be new in a coming war, and then try to discover with inexorable logic the weak and the decisive factors in the whole picture thus unfolded before our eyes. If we approach this task with an unbiassed mind, keep a tight rein on our imagina-

tion, and strictly adhere to realities, the investigating mind will see unveiled the mystery of a future war; the sphinx will speak and we shall descry the law of future superiority.

If, on the other hand, we only want to learn from the experiences of former wars without working out the practical result of these experiences, if we only try to bring into line, more or less mechanically, the new phenomena of our time with the old views, we must resign all idea of mastering the situation and making the most of it to our own advantage; in that case the war of the future will continue to be something uncertain, a riddle, the solution of which is looked for and expected by the events of the future. But the task is to solve the riddle *in advance*. That kind of mental labour must bear rich fruit. It will best prepare victory. It must be done.

CHAPTER II
ARMIES OF MASSES

CHAPTER II

ARMIES OF MASSES

IF we review the whole of military history as far as we have access to it, we become aware of an infinite series of different forms of war; war we see constantly changing. "War," says Clausewitz, "is a perfect chameleon, because in each separate case it changes somewhat its nature."

But if we look closer into the military events, we perceive that in war, as in almost all other spheres of life, a certain constancy reigns supreme; that certain features constantly recur; that certain relations between mode of action and success often remain the same.

First, from its nature, the *object of war* is always the same, we wish, as Clausewitz has already defined it, to impose our will on that of the enemy, by either annihilating or damaging him, or warding him off; or, maybe, we want to force him to do, or to give up, what is to our advantage. Secondly, every combat is governed by the law of *attack and defence*. An action outside the limit of these two notions is altogether unthinkable. And, thirdly, all actions in war are *influenced by the physical, mental, and moral qualities of men*.

All laws and principles which can be derived directly and purely from these three factors must evidently be looked upon as permanent laws and of general ap-

plication in war, which retain their decisive influence under all circumstances.

But in a certain sense the character of the theatre of war also accounts for some definite features of an invariable type.

In war on land, ground and the action of troops affect each other in many ways, always in the same manner. Defiles oblige us to decrease the front if we wish to pass them; steep gradients render upward movements difficult; eminences afford good view; ranges of hills cover from sight and direct fire; and similar instances of general application may be cited frequently. Naval warfare, on the other hand, is enacted on a storm-swept plain, and is subject to certain immutable laws from the nature of the sea. The same applies to the air and to the combats we shall see there in the future. But whatever may be the theatre of war, there remain but the three factors—the *object*, the *form of action*, and *human nature*—which determine the permanent soul of war from which the immutable laws of the art of war must be deducted.

The impossibility of theoretically developing these laws in their totality must be plain to everybody. Nevertheless, principles of this kind are as necessary for the practical conduct of war as are the general laws which form its basis. All military actions are regulated by them from day to day. All tactical regulations as well as all measures of organization are due to them. To describe these convincingly and to explain them clearly is the purport of every practical doctrine of war.

The difficulty of discovering irrefutably these important principles of warfare is chiefly due to the fact that it is very hard, on the one hand, to procure all

the material facts, from which these principles must be derived, and that, on the other hand, we all may look upon this material from very different points of view. And, indeed, we find that the same experiences of war are not always judged alike in the different armies, and that new phenomena in the military world are not seldom appreciated differently.

It will, therefore, never be possible to arrive at incontrovertible results in all that concerns military matters, as they are so uncertain and changing; but we must rely on the theory of probabilities. To get as near to certainty as possible by its aid will be the most we can hope to attain. Yet even then, in so far as it concerns principles derived from experience of war, we have to get over one difficulty more, and that is, we must find out whether the conditions are still the same as those under which a certain law was recognized as being a guide for us; whether we are, therefore, allowed to apply the principles resulting from that law straight to our own action in the present, or even in the future, without coming into conflict with the reality of things. The conditions continually change which determine the essential features of war, and it is not always easy to determine the amount and the kind of that change and its probable influence on the incidents of a future war.

The outward conditions determining war, we know, do not change by leaps and bounds, but do so gradually. Even the most momentous inventions and important social revolutions do not suddenly produce a change of all the factors influencing war. Thus it has taken centuries after the invention of gunpowder before the fire-fight obtained its own, and it is scarcely possible to gauge to-day the probable effect of aerial navigation on the future conduct of war; for it is

almost always impossible to discern the full significance of new inventions and innovations. In conformity with the slow change of the ruling factors, the laws governing the mutual relationship of things, and, jointly with these laws, the periodical principles of warfare as well, change but gradually. That which in the past was fundamentally right may therefore often be so in the present, in spite of certain developments having occurred, and form as a rule a reliable guide for recognizing the future, because things will develop according to a law, and, to a certain degree, can therefore be determined in advance. An example will suffice to show how the past in this way can be made to serve the future.

At the time of Frederic the Great the armies were greatly dependent on supplies from magazines, or, at least, they thought they were. Every pressure on their own lines of communication seemed to them a great danger, every threat on those of the enemy a great success. The pressure on the enemy's lines of communication became thus one of the most important maxims of operations. Napoleon, on the other hand, supplied his armies chiefly from the resources of the theatre of war. By this he made himself almost entirely independent of supplies from depots. A pressure on his lines of communication affected him little; tactical victory put an end to all anxiety caused by this pressure. His procedure was no doubt very advantageous so long as he was able to subsist on the country and sure of tactical victory. The moment he failed in both, as in Russia, the army perished from want of regular supplies from magazines. In the campaign of 1870-71 we used Napoleon's system in combination with supplies from depots, which answered well in opulent France. But we would griev-

ously err should we think that this was the last word on the subject; and when Field-Marshal v. der Goltz lays it down as law that we need not mind a threat to our lines of communication, but must, by striking forward, force the enemy to abandon his threats,* the validity of such a law is very limited, and rather applicable only if we are sure of victory and can live on the country without needing the lines of communication during the time before we gain the victory. But if in future, as will be most likely the case, situations arise in which armies are really dependent on supplies from depots, the strategic importance of the lines of communication will again assert itself to an enhanced degree, and similar principles in the conduct of war will prove necessary as they—*mutatis mutandis*—obtained at Frederic's time.

This example will suffice to make it clear in what way the development of military matters is subject to certain laws, and how greatly the knowledge of these may help us in shaping the future.

(After pointing out the danger of attempting to elaborate a rigid system of the "laws of war" which may easily degenerate into a mere rule-of-thumb method, and insisting on the necessity of any theory of war taking full account of the conditions of the time, the author proceeds to consider the effect of numbers in the wars of to-day.)

Of all the features which are destined to influence the conduct of war under present conditions, and cause it to strike new lines, it is the levy of masses, above all, which no doubt will give its peculiar stamp to the next war.

In the Central European States the whole male population, as far as it is able to carry arms, will be called

* v. der Goltz, "Krieg und Heerführung," 1901.

up, armed, and organized in tactical formations. In case of any hostile invasions, it is more likely than not that a "people's war" would be organized in the true sense of its meaning. The obligation of every citizen to serve is a generally accepted principle.

It is true, not all those obliged to serve are given a military training in peace-time. In Germany, for instance, this is far from being a fact for some time past. Yet everywhere enormous hosts are to be mobilized in case of war, not only for the defence of the native soil, but also for attack. It is right, to some extent, to speak of the armies of millions of modern times, the like of which have not been seen before in history.

It is, of course, out of the question that armies like these can be of a uniform character. There are in Europe militia armies and standing armies, which are absolutely different in character. In the latter the line regiments, augmented on mobilization by the latest annual contingents of reserves, and numbering in their ranks most of the regular officers and non-commissioned officers, are more efficient than troops of the second and third lines, which are composed of contingents of maturer ages, and which it is impossible to provide with fully competent officers.

The most efficient troops are called upon to face the enemy in first line, and to carry the war outside the country. The others are charged with the duty of furnishing the garrisons of fortresses, guarding railways, and occupying the districts conquered; or they serve to replace casualties suffered by the actual field army, or by any other fighting troops. All must *at least* be able to delay an enemy's attack by local defence, and to fight the enemy as guerillas should he cross the frontiers.

The consequence of this general levy is that the military value of the armies is very much more than formerly dependent on the character and nature of the nations themselves. The more of the population are enrolled into the fighting army, the more the spirit of the troops thus composed will be determined by the physical power as well as by the political and social spirit of the nation. An army with a discipline handed down from generation to generation, recruited from a vigorous folk accustomed to obedience, which has learned to limit its desires for the good of the common weal, and at the same time is trained to hard work and in the profession of arms, will give a better account of its power of resistance against demoralizing influences, as well as against the sufferings, fatigues, and privations of a campaign, than the army of another nation, which is physically weakened, infected by revolutions, or disused to arms owing to increasing opulence. Sound political training, preservation and strengthening of the spirit of discipline and subordination, readiness to make sacrifices in the interest of the community, which constitute the really loyal spirit of a citizen, are the necessary conditions for carrying on successfully the war of masses in our age. Where, however, the recruits who enter the army are accustomed to resistance and insubordination against all authority, the mechanism of a modern army runs the grave risk of breaking down even under the pressure of conditions which by themselves alone would not be decisive.

This development entails the further and, perhaps, still more important consequence, that the political importance of war has completely altered. Owing to the fact that all classes of the nation are affected, and that personal sacrifices are imposed on each individual

family, wars for frivolous or dynastic purposes become impossible. We can and must uphold by force of arms only the really vital interests of the country. The resolve to go to war is also rendered very difficult to-day, because war affects most deeply every member of the community. The sacrifice in wealth and blood that must be exacted will probably surpass everything we have experienced hitherto; and the dangers of such an enterprise, as well as the consequences of defeat in war, will be far greater than ever. Prussia's crushing defeat at Jena in 1806, and her rising in the memorable year of 1813, give us, perhaps, an idea of what the sacrifices will be in a modern war, and the oppression a nation will have to suffer in all likelihood should the war bring on defeat and with it the conquest of the country by the enemy. That France did not suffer in a similar way in 1870-71 is due to the broadminded humanity with which the Germans conducted the war. But it is not at all certain that other people will manifest an equally high moral standard.

Preparation of war in peace costs, as it is, large sums, and claims a considerable portion of the national revenue. If we mobilize, the necessary expenditure rises enormously. As most of the labour will be withdrawn at the same time from the market, and all means of living be stopped thereby, the whole of domestic life must be shaken to the core.

It has been asserted, and seemingly substantiated scientifically, that no State could carry through a war waged with the masses levied in our days. It would not only mean absolute domestic ruin, but war itself would be completely paralysed soon after its outbreak; the economic strength for maintaining such huge armies would simply fail. For this reason alone,

a war of that nature between two civilized nations would become impossible.

I think this view is going much too far. It is in the nature of human things that they regulate themselves automatically, as it were. Economic impossibilities do not crop up suddenly and all at once; they assert themselves gradually. Owing to the stress of the situation acting in a similar manner in both camps, the belligerents will be obliged to adapt themselves gradually to the existing situation. We can, for instance, hand over workmen to some industrial and agricultural concerns from the second and third lines, when they are not immediately wanted for military operations. The victor in the first decisive battles may be able to demobilize altogether the forces in rear of the army the moment the danger of hostile invasion has passed. The vanquished will sue for peace all the more readily the more impossible it appears to him, from an economical point of view, to re-establish the balance of power upset by defeat. But where in an indecisive struggle the adversaries keep each other in check, the standard of their efforts will be gradually lowered, and success will ultimately fall to him who can boast of the highest moral energy and self-sacrificing spirit, or, where on both sides the moral motives are of an equally high standard, can hold out financially longest to finish the war. In this way the factors ruling the conduct of war will automatically adapt themselves, as it were, to the economic conditions, and a compromise between what was intended and what was possible will of necessity be the result.

If we have thus established that an unfortunate war *must* entail far more disastrous economic consequences than ever before, and *may* lead to complete economic ruin, yet the inference that war with modern armies

could not be carried to the bitter end from reasons of economy is not justified.

Two points of practical importance result, however, from these considerations. First, the economic superiority of a nation forms by itself an essential factor of success, and the way a State manipulates its finances must have a far-reaching influence on the conduct of war. Secondly, all special preparations for war must be carried out with the greatest seriousness, with the utmost consistency, and *without false economy*. There can be no doubt that nowhere will half or insufficient measures be punished more severely than in the sphere of armaments. The losses entailed by an unfortunate war are *so* great, the venture of risking these losses by insufficient preparation is so dangerous, that even the greatest sacrifices for armaments seem justified under all circumstances.

From a purely military point of view, the growth of armies renders all military action much more difficult. This difficulty is already felt when training soldiers. In order to raise the masses required for war without increasing the cost of peace training unduly, the terms of service had to be reduced considerably in recent times. The training of each man must therefore be completed in a very much shorter time than formerly, and this imposes in consequence a much severer task on officers and non-commissioned officers. A very great amount of labour is moreover thrown on them by the fact that a very much greater number of recruits passes through their hands than in the smaller armies of the past, and that the numerous trained men must be retrained again and again to keep them permanently efficient. The consequence is that the strength of the trainers is taxed already to the utmost in peace time.

Another effect of these conditions with which we have to reckon is, that with the growing size of the armies the tactical worth of the troops is gradually decreasing. The greater the numbers which must be raised for war, and the more men must be therefore trained in peace, the more difficult it becomes to have available suitable officers and non-commissioned officers to train the men and to lead them. In war, moreover, the first line will be weakened by having to detail officers and non-commissioned officers to new formations, and the more there are of these new formations, the more this will weaken the first line. This must impair the steadiness of the troops, and evidently cause a moment to arrive when the advantage of numbers is no longer of any value as compared with the tactical worth of the troops. It is just this point which the latest wars bring forcibly home to us. The levies of the French Republic, in spite of their numerical superiority, were of no avail in 1870-71 against the firmly-knit battalions of the Germans; and the Japanese, in spite of the notorious numerical inferiority of their army, invariably defeated the numerically superior Russians. In this respect the American War of Secession is also exceedingly instructive. Again and again the numerically superior armies of the Union succumbed to the tactically and morally better trained forces of the Confederates.

The conduct of war itself is further made more difficult by the masses of men. It will, in the first instance, prove exceedingly difficult to move the various armies, which together form a modern army, by a uniform idea, and to direct them in such a way as to ensure the participation of every portion in the main issue, without wasting forces in minor operations. But the difficulties also grow with the number of

troops, from a technical point of view. Railway transport, and the systematic movement of very large masses, their provisioning, the necessity of keeping them permanently efficient, and, therefore, of providing for the constant supply of ammunition, the evacuation of wounded and sick, the pushing forward of the necessary drafts of men, horses, and material, the guarding of all important roads and lines of communication of the army, all these necessities present problems in the technical conduct of war which are very difficult to solve.

The enormous number of troops raised obliges us to select large areas for assembling them, and to make a thorough use of the network of roads within those spaces so as to be able to bring to the front as large a number of troops as possible. The same consideration will often oblige us to march on each road as many troops as possible. The number of troops on each road is again limited by the possibility of supplying them, and by the necessity of bringing into action—though perhaps not on the same day—the rearmost troops before the fighting strength of those in front is exhausted. The necessity of provisioning the troops and of replacing armaments demands at once that, on all lines of advance, stores of equipments and provisions must be collected, pushed forward, and issued to the troops without this mechanism being allowed to stop for a single day. The difficulty is enhanced when, owing to the number of troops, “living on the country” becomes impossible, and all supplies have to be brought up from the rear.

The strategic mobility of the large modern armies is, under these circumstances, palpably far inferior to that of smaller armies, which, at least, in a rich theatre of war that provides supplies without diffi-

culty, could move with much greater freedom. It is, moreover, evident that a large army, with numerous march columns moving parallel with each other, needs more time for wheeling, concentrating, and forming a battle line than a smaller one, and has to contend with greater difficulties of supply. Topographical obstacles, too, are manifestly more difficult to overcome by large masses than by smaller bodies. Owing to the clumsiness of all movements, and the time they take, all decisions of headquarters must be prepared long beforehand; it is therefore impossible to make always constant use of the intelligence daily received about the enemy. This again obliges us to push reconnaissance very far ahead, so as to have as early as possible information about the enemy's measures. This increases the depth of the army on the march, and with depth grows the difficulty of operating. All these conditions must be thoroughly considered, if we wish to form a clear idea of modern warfare. Yet even they do not include all the difficulties of operating which arise merely from the number of troops.

In most cases, especially when we are obliged to fight against superior numbers of the enemy, we will have to apportion to the actual Field Army troops of at least the second line—therefore reserve formations in Germany. These will be inferior to the line troops in power of marching, as well as in discipline and fighting qualities. The men comprising them are still perfectly efficient physically at their age of from twenty-four to thirty years, but often no longer accustomed to particular military exertions. Nor can rapidly created new formations ever prove as thoroughly trained and steadfast as a body of troops firmly welded together in peace time. A standard infantry can only be created under modern conditions.

in war, and when facing the enemy. To raise cavalry reserve units to the same level as regiments of the line is altogether impossible, and new formations of artillery will but very gradually attain the same efficiency as a unit thoroughly trained and knit together in peace, and thoroughly practised in shooting and driving. Headquarters are therefore obliged to reckon even in the first decisive battles with troops of varying tactical value.

As regards tactics, very considerable difficulties assert themselves, also, in the employment of masses, which with smaller bodies do not exist at all, or to a less extent. The use of ground for tactical purposes has become very much more difficult for the huge armies of modern times, than was formerly the case, especially on the defensive. It is exceedingly difficult to find defensive positions suiting armies of some nine to twelve army corps. In most cases we will have to include in the position portions of ground affording no advantages to the defence at all, or, worse still, favouring the attack. With the mass of troops available, we can, of course, occupy the less favourable sections of the ground more strongly, and thus try to neutralize the disadvantages we have to take into the bargain; yet we must bear in mind that the advantage of the defensive, of being able to spare troops just on account of the ground, is partly lost thereby, because we are obliged to employ troops in passive defence, which, if the whole position had been better, we could have used for other purposes. A similar disadvantage asserts itself, also, in the tactical offensive. It will not always be easy to find spaces sufficiently favourable for deployment of the large numbers in the attack of modern armies. Often we shall be forced to deploy troops on unfavourable ground.

In this way the modern armies of masses render the conduct of war difficult in many ways. But they themselves contain besides an element of danger that must not be underrated.

The mechanism of such an army is so enormous and complicated that it can only be kept going, and be directed, if all its parts work fairly reliably, and if it is spared great and extensive moral shocks. We cannot, of course, count upon the fortunes of war keeping us free from experiences of this kind, just as little as we can count upon being victorious in every action. These shocks can be got over if they are felt only locally. But when *large concentrated masses* are once out of hand, when panic has seized them, when supplies fail throughout, and the spirit of insubordination is rampant in those masses, they are not only powerless to resist the enemy, but become a positive danger to themselves and to their own commanders.

War conducted with large modern armies is therefore, in any case, a risky game, taxing to the utmost the resources of a State in men and money. Under such circumstances it is only natural that measures are adopted everywhere to make it possible, should war break out, to finish it rapidly, and quickly relieve the tension which must arise when the whole nation is called to arms.

This has caused arrangements to be made for the mobilization, immediately at the beginning of the war, of all the nation's fighting power, and for the strategic concentration of as many troops for simultaneous action as space and other conditions will permit. From this it follows that at the outbreak of war, a great and unexampled contest of millions of men will

take place, which will impress on modern war, in its initial stage at least, its special feature.

But we cannot assume that the conditions which result from the calling up of a whole nation's strength, and from strategetic concentration at the threatened frontier at the beginning of the war, will continue throughout its whole progress.

If in the Russo-Japanese War peculiar circumstances caused the armies to arrive in the theatre of war slowly and by degrees, and to grow constantly stronger in numbers as the struggle proceeded, it will probably be the reverse in a Central European War.

I have already pointed out that in the course of a long war the economic conditions must from physical necessity tend to reduce the employment of masses. But there are some other reasons tending in the same direction.

There will first and foremost be the natural waste, which will very rapidly reduce the masses in the field. Apart from the losses in action, the waste in men was very great already in 1870-71. The loss by marching alone, until the first actions took place, was 8 to 9 per cent., and during the war the companies especially became greatly reduced, often to half, and even less, their full establishments. The waste was also great, of course, in the drafts that had come out. All this will no doubt be far worse in future. In the vast numbers called up we must be prepared to find inferior men. The losses the troops of the first line will suffer when marching are therefore sure to be greater than formerly; they will enormously swell when we must operate with troops of inferior quality. We must also reckon with the fact that some men of the older contingents of reserves, fathers of families, and politically unreliable subjects, will try, by some pre-

text or other, to escape service, and often so, perhaps successfully. In 1870-71 in France, during the second phase of the war, the republican authorities were frequently obliged to use the most stringent measures to get the men to serve. Large numbers will be therefore lost from this cause. The course of the war will probably produce similar effects. The efforts made at the very beginning of the war are so great, that it is scarcely possible to increase them, at least in countries like France, which raises its last men on the first day of mobilization. If such an army is victorious, the inducement for further great exertion ceases, but if the war takes an unfavourable course, it will often seem hopeless to continue it when the supply of men has been exhausted, and the force that brought these masses into the field will then give way.

All these circumstances will probably cause the size of the armies to dwindle away rapidly after the first decisive battles, especially when the physical and moral strength of a people does not come up to the high demands a modern war exacts. The war of masses will thus undoubtedly lose much of the character peculiar to it during the progress of events. In the conduct of war itself, conditions are also likely to arise, giving a different stamp to the combats after the first great decisive battles. It is quite a different thing when two intact armies meet on equal terms at the frontier, or when one army victoriously invades the enemy's country, and the other, beaten, but fighting in its own country, retreats. The conditions under which the struggle is continued then change in many ways, as we shall discuss afterwards. The war of 1870-71 already took the course here described,

though not in so clear a form as we may expect to see in future.

The Russo-Japanese War, it is true, was of a character altogether different. From beginning to end it was a uniform struggle of two modern armies; yet we cannot accept this as a proof at all that matters will take a similar turn in future. The conditions were quite peculiar which forced upon it this uniform nature. The main forces of both contending armies were in this case tied to the only existing railway, because they were dependent on it for their supplies. That railway formed the clamp which kept both armies closely concentrated and obliged them on the whole to advance against each other frontally. But nothing justifies the assumption that in countries with an extensive railway system, permitting the use of different bases, things will be the same as in Manchuria. We must, rather, come to the conclusion that, owing to the enormous size of the armies, a future war in Central Europe will be of a twofold nature. The *war at the time of concentration* will reveal the special features of a modern war with masses. The *operations afterwards*, however, which must result from the first great decisive battles, will be more like those we have witnessed hitherto. This latter period will be less distinguished by the special modern features due to the size of the combined forces in strategical and tactical operations than by the achievements of modern military technics, which will, of course, manifest their far-reaching influence also during, and immediately after, concentration for war. In addition to the effect of masses in future wars we must, therefore, also thoroughly investigate into these modern war appliances if we wish to gain a clear conception of the nature of the next war.

But before we turn to the description and examination of these mechanical appliances we must once more consider numbers in their all-important relation to force. Mass (numbers) and force are not identical. Force does not at all grow always in the same ratio as numbers. Between force and numbers there is, rather, a relation that often varies and depends on a variety of circumstances, demanding more than ever special consideration at this age of enormous armies.

CHAPTER III
FORCE AND NUMBERS

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WHEN we were glancing at the inevitable consequences of calling up for war, in our days, the whole nation, we became aware of the fact that the masses themselves contained some elements of weakness, that they are sometimes even a kind of danger to our own conduct of war, but that nevertheless all States of Europe are dominated by the "mania for numbers," and that the general tendency is rather to increase the levies to the utmost limit of financial and personal capacity. There is no idea of stopping this for the time being. Numbers seem to the present generation the decisive factor in war.

The importance attributed to numbers in general by all Continental States of Europe is naturally based on the assumption that, taking armament, equipment, and recruiting as about equal, the efficiency of the various European Armies would be about equal, that we could consequently attain a distinct and tangible superiority only by superiority of numbers.

But this faith in numbers is a delusive idea. The experience of war at all times makes this clear, and nothing is more dangerous than to expect numerical superiority to do what it cannot perform by itself. The size of the armies employed is certainly one of the most decisive factors of force. Yet we must not overrate its importance. For the theory of war, the

notion of numbers is at first the only possible gauge we have for estimating force; but the practical soldier, when applying theory, must always remain aware that force is equal to numbers only in theory, and not at all so always in practice.

The numerical strength of an army is at first the only factor of force which can be ascertained for certain. All other components of this force can only be estimated, and are thus liable to deceive in an infinite variety of ways. Knowledge of the enemy's numerical strength gives us, for all that, some kind of safe guide for judging what we may expect he can do, if we add that knowledge to our estimation of his military qualities, weaknesses, and peculiarities. Indeed, this guide may become an absolutely safe one if we have become acquainted already, by experience of war, with the enemy's peculiarities and efficiency, and are therefore no longer dependent on mere guesswork. It was thus possible, for instance, on the German side, after the battles of Woerth and Spicheren, to get a precise idea of the high tactical worth of the French army, its mode of fighting, and want of initiative on the part of the leaders. If, in addition, exact intelligence was available about their numerical strength, German headquarters held a safe guide for determining the vital force of the enemy. Where, of course, the armies are composed of troops differing in value, their total numerical strength affords no safe guide for what the enemy is capable of doing. Yet we must remember that even troops of different value at the beginning of the campaign, let us say first-line troops and new formations, may during the war attain a certain amount of equality. The weaker and less efficient elements will gradually disappear from the ranks, owing to the fatigues and privations; death

will have its due, taking away too often the best and most daring men; war experience is gained by all portions, and by degrees makes up for the deficiency in training. All these elements work together, to efface gradually the difference in the value of the troops. If once this stage is arrived at, if the enemy has become aware of this development by experience, his intelligence about numbers will again be to him the decisive factor for estimating the enemy's power.

The same, of course, holds good for our own troops too. If their qualities are so well known to their commander that he can form a correct estimate of them, numbers afford him the scale by which to measure the force he must stake in each individual case to ensure success. If we are altogether justified in assuming the value of the troops of both belligerent parties as perfectly equal, numbers will form the absolute gauge for what force we must use.

In the practical conduct of war, numbers will therefore always form one of the most essential factors in strategical calculations, and of success. Yet numerical superiority is not always the most important condition for success.

There are often occasions where superior numbers are of no avail. When Bourbaki attacked the position on the Lisaine, he was altogether unable to deploy his forces on the comparatively narrow space he had selected for attack. Of the 326 guns he had brought with him he could only get 80 into position; his infantry had no room for deploying their superior numbers; and so he had to give in before the numerically weaker enemy; and during his retreat his numerical strength brought further disaster upon him, because he was unable either to move, or supply in a proper manner the numbers he had.

Conditions may arise where *time* makes it impossible for the numerically stronger party to concentrate superior masses at the proper moment. In other cases, again, it is the tactical and operative clumsiness of armies which makes it impossible for them to use their superior numbers effectively in the face of a more mobile and tactically better organized enemy. Military history abounds in such examples.

Further, there may be situations in which large masses mean destruction owing to the disproportion between the numbers and the nature of the theatre of war. Poverty of the country and few roads mostly go together, because roads are not made arbitrarily, but originate from traffic of men and goods, and can only exist in proper proportion to this traffic. There may very well be cases where it is positively impossible to provision troops beyond a certain number, and to keep them efficient to fight and to move. The most telling example of this fact is furnished by Napoleon's campaign in 1812 in Russia, where the bulk of the army did not succumb to the rigours of a Russian winter, as legend will have it. It mostly perished during its advance, because, with a sparsely populated and roadless country, it was impossible to march the army divided, and supply it regularly. Then the hungry mass broke all bonds of discipline; the losses on the march grew enormously, and of the whole grand army, which, more than 300,000 strong at the beginning of the campaign, had begun its advance under the personal command of Napoleon, something like 123,000 men only reached the battlefield of Borodino, and only 90,000 Moscow. These remnants only perished from hunger and the cold during the retreat.

If, in the cases mentioned, numbers were of no use

owing to the peculiar and unfavourable conditions prevailing, we learn, on the other hand, from innumerable examples of military history, that even under the most favourable conditions for operating with, and deploying, troops, the advantage of superior numbers was neutralized by the superior military and moral worth of the numerically weaker party. The Romans conquered the world with inferior numbers; and we need only open the great book of Prussian history to become aware of this fact from our own glorious past.

The moral worth of troops thus gains decisive importance in addition to numbers, and this, under the conditions of modern warfare, will weigh all the more heavily in the scale. The capability of modern troops to endure fatigues and fight with energy, and their moral strength under privations and disaster depend, under modern conditions, on many other things, and differ, therefore, much more from those prevailing at the time of professional armies, which contained in their ranks many veteran soldiers, who had faced death a hundred times. Less than formerly must we, therefore, gauge to-day the efficiency of an army by numbers alone.

The value of modern troops rests on national character, and on the system of service; on the moral and physical soundness of the men; on the training of man and horse; on armament and equipment; on the obedience to which the men have been educated; on the amount of self-reliance and initiative which is, nevertheless, developed in them; in no small measure, on the confidence the men have in their superiors; on the *esprit-de-corps* by which the troops are animated; and lastly, on the ready zeal and devotion which the personality of the commander is able to rouse and to preserve. The power of an army further depends on

the proficiency, intelligence, and heroism of the officers. The value of armies will therefore vary according to the general state of civilization of the nations, and their military institutions, and so long as the national character and the state of culture of the nations, from which the armies spring, differ, as is still the case in Europe, we do not go wrong, in spite of the similarity of all military organization, in assuming that the various armies differ very much in their military efficiency.

We have already pointed out, that even within one and the same army, the various categories of troops are of very different character, and that by filling up the cadres, existing in peace, with reserves on mobilization, the value of a unit may even be lowered.*

The strategist in the armchair does not, of course, like these things, and it is at any rate very much simpler in all military plans to operate with tactical units as if they were as equal as the pieces on the draught-board, and not of varying value. We would, in that case, have a fixed rule for estimating the power of

* An instructive illustration of this fact is afforded by the Imperial French Army in 1870. Here, the reserves called up often became a source of weakness, and brought the seeds of disintegration into the ranks of the well-disciplined peace-formations. The example of Lapasset's Brigade, belonging to the Fifth Corps, is in this respect especially characteristic. This brigade had joined the Second Corps, during the retreat from the Saar. Arrived in front of Metz, the brigade commander asked to be allowed to hand over his reservists to the fortress garrison. He thought he could do better with the weaker peace establishments alone. His request was granted, and indeed it was this brigade which never budged an inch of ground, in spite of the most violent attacks of the Germans, whilst other French troops in less difficult situations were often much shaken in their morale.—Lapasset, 1817 to 1875, "*Mémoires*," 1900.

an enemy, and could not only employ our own troops indiscriminately, but also augment them at will, so long as we have trained men, and money. But such a strategic calculation would hopelessly break down in the face of the stern realities of war; and to meet these successfully we must always reckon with the actual values; not *numbers* decide, but *force*.

The elements, however, from which force originates, are almost all imponderable, and we can never succeed in expressing in a formula, universally applicable, the ratio that exists between force and numbers, and in fixing the limits beyond which increase of force through increase of numbers will be neutralized by the elements of weakness which under certain circumstances result from such increase of numbers. But some points may be noted which should never be lost sight of.

We must first of all remember that the tactical increase of force, which we may hope to gain by reinforcements in numbers, vanishes if accompanied by strategic disadvantages which neutralize or even exceed this tactical increase of force. We can certainly never be too strong in battle, yet there may be situations where we must give up numbers in return for other advantages. This will be the case, for example, if the opportunity is favourable for acting rapidly, and would be lost, should we wait until the largest numbers possible are concentrated. The accumulation of troops may also impair their mobility and deployment to such an extent as to turn the tactical advantage aimed at into a positive disadvantage.

We must, secondly, be clear on the point that numerical strength is only effective as such, if the troops employed are actually fit to do the work im-

posed on them. Nowhere more than in war is it necessary to deal with realities only.

Lastly, we must never forget that the moral and mental factors of force are always the ruling factors, and, within certain limits—which in each case must be very differently defined according to special circumstances—are more important than the numerical factors. This goes even so far as to make the force of psychical impulses sometimes counterbalance almost completely all other defects, and the influence of one single great personality may raise to a marked degree the general level of efficiency of whole armies—nay, even of whole States.

If the greater efficiency of troops is thus a factor which to some extent may make up for inferiority in numbers, and, with equal numerical strength, represents a decisive superiority, we should think that, at least, with equally efficient troops on both sides, superior numbers under otherwise equal conditions should guarantee us victory at least in theory. Yet military history proves that it is not so.

The reason for this apparent inconsistency is very simple. The way of *conducting* war it is which gives victory to the one or the other party. By the advantages of natural or artificially prepared ground, by the greater advantages he may derive from his armaments, and by other circumstances, forces accrue to the defender, which sometimes suffice to establish his superiority over the enemy; the assailant tries to gain superiority by the advantages inherent in the initiative and in offensive tactics. By this means he may succeed in defeating portions of the enemy's forces before the latter can concentrate them all against him, and in becoming by this local victory the numerically stronger party. The superiority which

one or the other side may thus obtain, may and can be even so pronounced as to compensate for the original inferiority, and thus procure for the weaker army, supposing the troops to be equally efficient, the possibility of conquering the stronger enemy. But for such success we must always presume superior *leadership*, which can change almost everything to its favour. Here again we are confronted by an entirely imponderable power. It will never be possible to determine what the effect of this power will be in each case. The increase of force produced by the absolute confidence of the troops in their leaders; the terror spread by a great name; the elasticity of genius in the moment of danger; and the importance of ingenious plans of operation positively defy all calculation. But when we see generals, who are not equal to their task, bring to naught the best performances of troops and the effect of greatly superior numbers; when, on the other hand, we notice the successes gained by great captains against overwhelming odds, no room is left for doubt that great generalship is of decisive importance, and that it can make up for greatly superior numbers of the enemy.

Yet experience and theoretical considerations show again that the most ingenious generalship is bound to fail when opposed to superior numbers that exceed a certain limit; that numbers, when they can act as such and are large enough, can neutralize all mental and moral superiority; that an equalization of numbers by genius is, after all, only possible within certain limits, and that a certain amount of numerical superiority is simply crushing, physically.

Two means, we have seen, a commander has to get the better of even a stronger enemy. He can, by making clever use of the tactical advantages of the

defensive, or by some successful offensive action, inflict such losses on the enemy as to neutralize thereby his superior numbers, or, at least, their efficient employment. If we start from this fact, we necessarily arrive at the following result: A general may neutralize the superiority of an enemy, if the proportionate numerical strength on both sides leaves any chance at all of inflicting on the enemy, one way or the other, losses large enough to neutralize his superiority. But if the numerical superiority of the one party is so great as to preclude the weaker party from decisively affecting, even by possible successes in the tactical defensive or by successful offensive actions, the total effect of the enemy's numbers, then no generalship avails to neutralize the effect of such superiority.

This is the most essential law of numbers.

The great captain of the French Revolution may be cited as an example. Especially in his first campaigns in 1796, the ever-victorious Corsican repeatedly succeeded in overpowering, by local victories, far superior forces of the enemy with an army that at first had been totally neglected. By seizing his opportunity when his enemies were separated, he, with his concentrated forces, first defeated one group of the enemy, and then turned round to defeat, with the same force, the other group. His enemies never succeeded in uniting their forces against him; but the portions first defeated represented such a large fraction of their whole available force, that by their defeat the original superiority was lost.

The latest wars show the same law. The Japanese were surely perfectly clear on the point, when they attacked Russia at the beginning of 1904, that all the military forces of the Tzar were many times superior to their own. But there was doubtless the chance of

conquering those forces of the enemy which could be employed within a measurable time, victories which were bound to shake the whole edifice of Russian power to its foundation, and make the enemy inclined to conclude peace. We know the events proved this reckoning correct.

All the examples cited clearly show us the law of numbers in a positive sense. The numerically weaker conquers because he is strong enough to beat such a large portion of the enemy's forces locally in attack, or to weaken the stronger adversary materially and morally in the defence, to such an extent as will counterbalance, by the one way or the other, the original disparity in numbers.

Military history, however, shows us also that this law cannot be infringed without punishment. When Napoleon, who so often and so brilliantly had beaten superior numbers with weaker bodies, wanted to enforce victory with an army so much weaker than those of his enemies that even the most famous local victories could no longer change their proportionate numbers, he succumbed, and was bound to succumb.

We have convincing proof of it in the campaign of 1814. Napoleon turned against the Silesian army which was marching in separate columns, dealing it crushing blows and driving it back with heavy losses. But this success was not enough to restore, even to some extent, the balance of the total forces; and when this victorious general went in turn for the main army of the Allies, he succumbed in the face of the enemy's masses, though they were used even with little energy.

A similar thing happened in the American War of

Secession. For a long time General Lee, the great leader of the Southern army, was constantly able to restore the balance of force by local victories, gained on the inner line over the numerically far superior enemy, reducing the latter's superiority over and over again. But his resources declined; all the vital communications of the Southern States were gradually cut off, making the superiority of the North so overwhelming that no local victory could any longer reduce it, and no local defence make up for it. And thus the valiant band of heroes of the Southern States was ultimately obliged to surrender its arms, which it had so chivalrously wielded—before a positively crushing superiority.

The law of numbers teaches also a positive doctrine. If it shows us, on the one side, the limits which even genius and its inspiring strength cannot transgress in this life without being wrecked; it shows us, on the other, how much even a limited force may achieve. By this law success, at least within certain limits, is no longer at the mercy of purely material forces; Napoleon's dictum proves false—that victory is on the side of the big battalions; the mechanical superiority of numbers does not reign supreme; genius of leadership, superiority of mental and moral forces will come to their due so long as they do not strive after the impossible; a bold and clear-sighted policy may look forward to well-deserved success.

This holds good for our German Fatherland as well. If Germany is involved in war, she need not recoil before the numerical superiority of her enemies. But so far as human nature is able to tell, she can only rely on being successful if she is resolutely determined to break the superiority of her enemies by a

victory over one or the other of them before their total strength can come into action, and if she prepares for war to that effect, and acts at the decisive moment in that spirit which made Frederic the Great seize the sword against a world in arms.

CHAPTER IV

MODERN ARMS AND APPLIANCES

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AFTER having attempted to reduce the importance of numbers to its true value, and give force its due with regard to numbers, we must now cast a glance at the military appliances by which the human mind has been unceasingly endeavouring to enhance force by pressing into its service the powers of Nature.

Among the mechanical achievements of our age, modern arms rank first, because they directly affect fighting. They must be considered first. But it would not answer my purpose if I gave a complete survey of the present state of armaments in the different armies. I must leave that to expert knowledge in each particular branch. For me, it is a question of tracing the influence of arms on the conduct of war. I therefore need allude to technics only in so far as it is necessary to understand tactics.

The infantry being always the decisive arm, its armament is, above all, of the greatest importance. This is shown in all wars by the fact that the losses caused by infantry fire are always considerably higher than those through other arms.

The efficiency of infantry arms in the different armies is approximately the same since the small calibre has been adopted everywhere. Their rapidity of fire is great. About twenty rounds can be fired per

minute. In compliance with its range, the sights of almost every new weapon are provided with a scale of 2,000 metres.* Most armies use the modern pointed bullet. Differences in armaments which might affect tactics do not exist anywhere. The German rifle, in particular, may be said to be a good one in every respect. It quite comes up to modern requirements. Its efficiency, rapidity, and accuracy of fire are good. Its construction is simple and serviceable. Somewhat behind time is, perhaps, the French Lebel rifle, which, in addition to other defects, has still its magazine along and underneath the barrel, whilst all other armies have introduced centre-magazines. Consequently, they are in France seriously engaged with the question of re-arming their infantry, hoping to gain thereby a start, especially over Germany.

For all that, with the adoption of small calibre and clip-magazine, as well as with the introduction of smokeless powder, and of pointed projectiles, the development seems to have reached a certain climax, and to have come to a finish for the time being.

Some States, it is true, are considering whether the time has not come for adopting an automatic rifle, which would allow of a very much greater rapidity of fire. Trials have shown that up to 100 rounds per minute can be fired with such a rifle, which at the present moment is actually being introduced in Mexico. France and England are hard at work constructing a similar weapon. In both these States the requirements to be fulfilled by this kind of arm have been made known officially, proclaiming thus a public competition, as it were. France seems to be nearer the solution of this problem than England. Commandant

* About 2,200 yards, or $1\frac{1}{4}$ miles.

Chauchat has invented a machine-rifle ("fusil mitrail-leuse") weighing but 16 pounds, and enabling one man to fire 200 to 300 rounds per minute. Efforts are being made to construct from this model an infantry rifle not exceeding 8 pounds in weight. An armourer of the small arms factory at St. Etienne is said to have already produced such a weapon which, with a calibre of 6.5 mm., comes up to all requirements. It is not known whether it has a chance of being adopted. Trials are, at any rate, pushed forward vigorously, and we may be sure of France introducing a new rifle at no distant date, an automatic rifle, or one with magazine case.*

The most material influence exercised by the improvement of infantry rifles is the dissolving effect produced on infantry formations in action.

Under modern conditions, closed bodies of infantry cannot expose themselves to rifle fire even at distant ranges, say 2,000 yards, without suffering most serious losses. As soon, therefore, as there is a chance of coming under fire, the infantry must deploy for action, so as to pass quickly into extended order the moment the enemy's fire begins to tell. All further manœuvring is then out of the question; forwards or backwards is here the only thing permissible and possible. The troops can only fight in single rank in loose skirmishing lines. Circumstances, ground, the enemy's fire, and our own intentions determine the intervals between the skirmishers. Within effective range, infantry can only advance by rushes or crawling, making at the same time the best possible use of the ground. Efforts will be made in most cases to decide the fire action at the medium ranges of 1,000 or 800 yards. It is not likely that on open ground we

*"La France Militaire," No. 7,851, January 25, 1910.

can approach the enemy's position closer than this before his fire has been at least partly fought down or subdued.

The character of fighting has altogether changed through all this. While it was formerly a question of leading the men forward in more or less closed bodies, under the direct control of their officers, with a portion only of the men extended in skirmishing lines or swarms, all the fighting troops now move in extended order, where each man fights and acts individually. Officers can no longer assert a direct influence, as formerly; the greater noise during an action renders it more difficult for orders to be heard. Often the few officers left can only act by their example during the action itself. The supports as well are obliged to advance over open ground in extended order, and can no longer follow the firing line so closely as formerly, because the dangerous zones behind that line have been very much increased, owing to the flatness of trajectories, and because the shrapnel fire directed against the foremost fighting lines forces the supports to keep at a proper distance, if they do not wish to suffer unduly without being able to inflict any damage themselves. On that account all distances in action have increased.

Through the introduction of an automatic rifle, effect of fire, it is true, would probably be increased; but many disadvantages would result therefrom. The new weapon would allow an overwhelming mass of projectiles to be hurled upon the enemy in the shortest possible time at a given moment in action; the physical labour of the men when firing would be reduced. On the other hand, a great deal more ammunition would be spent, of course, and there would be greater danger of wasting ammunition than there is

now. The question further arises whether it will be possible for the men to carry sufficient ammunition in attack to take full advantage of the rifle. Should these rifles carry still farther than the best of our present rifles, the troops will probably have to deploy for action earlier. But it is scarcely likely that the foremost fighting line will have to extend in yet looser formation. The limits at all compatible with an orderly conduct of the fight have been reached as regards that point. I do not believe, on the whole, that the introduction of automatic rifles would cause tactics to change appreciably. Without doubt, it would benefit the defence in the first instance.

Nor is another new invention likely to affect tactics. It is the so-called "flame-killer," a material manufactured in the form of powder, which, added to the charge, does away with the flash at the muzzle without impairing accuracy of fire.

Infantry fire is very much enhanced by machine guns which, with ballistic properties equal to those of the modern infantry rifle, can deliver 600 rounds per minute, the gun being at the same time designed to sweep with its fire a certain frontage of the target by means of a slowly acting traversing arrangement for the barrel.

The effect of these guns at known ranges against low targets is very destructive when the gun is carefully served. But when the range is wrongly estimated, or the gun is improperly served, fire effect is very much impaired, the cone of dispersion being much shallower than that of infantry fire, where the individual marksmen commit manifold errors in aiming and firing, and thus cause a greater depth of the cone even when the range is known. But with machine-gun fire the error committed by the gun is al-

ways the same for each projectile, and the cone is therefore very shallow. Chance hits, as with infantry fire, are nearly impossible. By providing machine-guns with telescope sights it was thought better aiming could be insured; but the vibration of the gun when fired renders the use of that appliance difficult. Hoses have been introduced to carry on the steam generated by the water in the cooling apparatus when the gun is fired rapidly, so as to prevent the steam from being seen, making it thus more difficult for the enemy to range on the guns in action.

The efficiency of the machine guns in use to-day and adopted by the different armies is approximately everywhere the same. Germany has adopted Maxim's system with hoses for steam exhaust, like most of the other great armies. Telescope sights are not used. France attaches great value to equipping the army with machine-guns. She has procured large numbers of them, and apparently tries by these means to make up for her shortness in infantry, which she can no longer increase owing to the numbers of her population. She has adopted Hotchkiss's and Puteaux's systems. The latter system is said to be undergoing improvements which raise the rapidity of fire from 600 to 800 rounds per minute. France takes also an interest in the construction of light machine-guns in the form of a rifle like that of Chauchat, which I have mentioned. England, it is said, has resolved upon the introduction of a similar rifle as well. For the moment the British Army is equipped with Maxim and Colt machine-guns. Two guns are attached to each battalion, and six to a cavalry brigade. Austria has adopted for the field army Schwarzlose's, and for fortress warfare Skoda's machine-guns. The other great military powers are equipped with Maxim guns, partly

apportioned to infantry and partly to cavalry, to raise their fire force. The mode of transporting the guns depends on the method in which they are intended to be used, and varies in the different armies. The guns are partly carried on pack animals and partly on wagons, whence they are placed for firing on a sledge or gun-carriage. If need be, they can be fired straight from the transport wagon, or the gun-carriage is at the same time used as the means of transport. Experience alone can tell which of the patterns are the most useful.

It can scarcely be doubted that the machine-guns, especially when used in numbers, will exercise a certain amount of influence on tactics. If these guns are to co-operate with infantry in action, the latter will somewhat have to look after that auxiliary arm, the employment of which depends so much on special circumstances. There is a risk, then, especially in the attack, of infantry regulating its advance too much by the machine-guns, and losing thereby its freedom of action.

The weapons of field artillery have developed as rapidly as those of infantry. The effect of this arm has enormously increased since our last wars. The ballistic properties have been considerably improved since 1870-71, and the ranges have materially lengthened. Through the use of smokeless powder the possibilities of the effect of artillery, and through the adoption of new guns and projectiles, the nature of this effect, have been greatly enhanced. Shrapnel shell is used in addition to common shell. The effect of both kinds of these projectiles has greatly increased. In addition, combined projectiles are lately being introduced, which can act as common shell or as shrapnel shell. It is anticipated that this kind of universal

shell, or composite projectile, will be adopted by all armies within measurable time. By the fuse-setting apparatus the setting of fuses for the different ranges is rendered easier and more rapid; it does away, at the same time, with a source of inaccuracy due to setting the fuse by hand. A mechanical time fuse, with clock-work that starts on a round being fired, is designed to diminish the irregularities in the acting of the time fuse, and to lengthen the shrapnel range. But this invention has so far not been adopted anywhere. Through the introduction of guns with their barrels recoiling, rapidity of fire is, however, very materially increased, because the rough corrections, at least, for relaying the gun approximately after each round, are done away with. By the use of shields the gunners are pretty fairly, though not perfectly, protected against fire from shrapnel and infantry. The rapidity and accuracy of fire is further affected very advantageously by the improvements in the apparatus for laying the guns. The independent line of sight allows a division of labour between two gunners, thus facilitating and accelerating laying, especially for searching fire. The telescope sight makes it easier for the layer to see clearly and aim accurately at the target, in spite of the long ranges at which artillery is firing to-day; this, again, reacts favourably on the accuracy of fire. The hinged stereo-telescope, owing to its optical properties and its fixed stand, makes it possible to find out and clearly trace in detail even targets otherwise difficult to see on the ground; it allows, moreover, the effect of fire to be well observed by those who fire.

In addition to guns, which held the field alone for some time, howitzers have recently been introduced again. The necessity of destroying the enemy's field entrenchments and hitting targets behind cover has

brought this about. These guns are apportioned to the field troops as light and heavy field howitzers. The former have calibres of 9.5 to 10.5 centimetres, and the latter of 12 to 15.5 centimetres. Both have automatic recoil and protective shields, and can be used for direct as well as for high-angle fire.

The heavy howitzers, to which everybody attaches great importance, use direct fire against solid upright targets like walls, buildings, entanglements, etc., with ordinary common or high-explosive shells, and against shield batteries and living targets with common shell or shrapnel. Opinions differ on the use of the latter. We have not introduced them in Germany.

Of decisive importance for the tactical employment of artillery is, lastly, the development of indirect fire, which, owing to the modern means of laying guns, can be manipulated with great certainty, so long as the commander is able to watch the target. The artillery can thus be effective without laying itself open to fire that can be observed. The gun is laid with the help of auxiliary aiming points. So much importance was attached in France to this kind of fire that the guns always fired indirectly, as a matter of principle, using auxiliary aiming points (*point de repérage*). But the new Artillery Regulations of autumn, 1910, have abandoned this extreme view.

When firing from covered positions, the fire is watched from observation ladders, carried as a rule on observation wagons, and provided, if need be, with protective shields, or it is watched from points in the country, from which the targets can be seen, and which can be connected with the firing battery, if necessary, by telephone, for the transmission of the commander's orders. Laying for indirect fire is facilitated by the

panorama telescope, which allows an unlimited and direct use of auxiliary aiming points.

Lastly, we must mention the quick-firing guns of small calibre, which, with a bore of 3.7 centimetres and similar diameters, can fire about 300 rounds per minute, and are effective even up to 5,000 metres. In the South African war, these so-called pom-poms proved of great service, so much so that the English cavalry was supplied with them after peace was concluded.* The great mobility of these guns, the ease with which their fire can be observed, and the rapidity with which a certain amount of effect can be obtained, make them seem an arm especially useful for cavalry. But, for all that, they did not find favour with the German army.

The field army of the German Empire is equipped with a 7.7 centimetre quick-firing gun. It is surpassed in many ways by more recent patterns, yet it comes up to the tactical requirements. Its mobility, at any rate, is excellent. It is equipped with time-shrapnel for 5,000 metres range, giving a forward effect of 300 metres for the cone of fire at the most favourable ranges; and with common shell that can be used also with time fuse; but the use of common shell with time fuse is effective only when the bursting point is in a distinct position with regard to the target; the common shell with time fuse is therefore not a particularly serviceable projectile. No other State, for that reason, uses common shell with time fuse. But the range of shrapnel has been increased to 6,000 metres and more by almost all other nations. The Japanese are even said to have attained a range of 7,500 metres for time-shrapnel. The independent line of sight, which Germany has not yet adopted, is being used al-

* Have been withdrawn since.—*Translator.*

ready in various other armies (France, England, Turkey, Italy, partly in Russia, Belgium, and others).

Besides guns, the German artillery is equipped with light quick-firing field howitzers, to be used for direct as well as for high-angle fire, and thus able to cut through strong overhead cover of field entrenchments. Its shrapnel has the same range as that of the guns, with slighter effect in depth. This howitzer fires a newly-constructed composite projectile (05), which can be either used as common shell or as shrapnel shell. As common shell with time fuse, it is more effective against targets behind cover when the bursting point is correctly situated, than the common shell of guns; and for percussion shell it contains a contrivance for setting the percussion fuse "with delay."

Owing to the large calibre (10.5 centimetres), each round of a howitzer is more effective than one from a gun. But this difference is counterbalanced by the greater rapidity of fire from guns, and by the fact that the howitzer batteries carry less ammunition than the gun batteries. The greater number of light projectiles gives more chances of hitting when sweeping and searching than the smaller number of heavy projectiles. The replenishing and supply of ammunition is also affected by the difference in calibre; on the other hand, owing to the adoption of a universal projectile, the preparedness of howitzer batteries for any kind of fire is materially increased.

The German heavy 15-centimetre quick-firing field howitzer can cut through the strongest overhead cover of field entrenchments, and fight down in a very short time field artillery recognized as such, and under observation. It uses only common shell with percussion fuse, with or without retardation for high-angle fire. Its explosive and detonating force is very great, and

therefore likely to shake the morale of troops, even if there is not much actual damage done to matériel or personnel. But the heavy field howitzers are no good against permanent or provisional works. If the field army is to deal with them, heavier guns must be apportioned to it. Even the 21-centimetre mortar, with which the German heavy artillery is equipped for that purpose, and which is going to be replaced by an improved type of the same calibre, may sometimes prove insufficient. So it will be necessary to introduce still larger calibres. Such a gun, a 25-centimetre howitzer on gun-carriage, has already been constructed by Krupp, as we see from "Loebell's Annual" of 1910.

Long guns of large calibre, designed more for fortress and siege warfare, can also be attached to the heavy artillery of the field army for special purposes. They are the 10 and 13 centimetre guns of latest design. The latter ranges up to 2,000 metres and more, and by its far-reaching and effective shrapnel fire may sometimes be of great use for enfilading the enemy's approaches, searching the ground in rear, and similar objects.

To be complete, I may yet mention that the 13-centimetre gun and the 21-centimetre mortar of recent construction are provided with a contrivance by which means the guns need not be fired from platforms, and can traverse unfavourable ground, such as soft ground and marshy meadows, and use country roads.

Closed bodies of troops can no longer move to-day within the zones of effective artillery fire. When coming within its range, we are obliged to unfold the masses coming up by the roads and to split them up into fractions, so that these may find some cover on the ground, at least from sight. This is all the more necessary because the roads can be enfiladed by indi-

rect artillery fire with the aid of maps. The formations when moving must also be chosen so as to offer as small a target as possible to the cone of dispersion of shrapnel fire. We will be often forced to cross dangerous stretches of ground by night and approach the enemy's position under cover of darkness. As a result of this increased effect of artillery, it becomes necessary to begin the attack formation, where it is not covered by ground, much sooner than hitherto; indeed, at distances, generally, preventing personal reconnaissance of the ground and of the enemy's measures by the leader, thus obliging him to make his decisions on what information he receives from his reconnoitring. It is obvious that this distant artillery fire must affect strategy and tactics widely as regards time and space.

All preparatory movements of troops on the battlefield itself must be made beyond the zone of artillery fire, and thus begin a long way off. If hostile aviators can see these movements, they must be made if possible so as to avoid the zone of indirect artillery fire as well. All enveloping movements must therefore begin at some distance from the battlefield. They must be carefully veiled or initiated by night marches, if they are to be a surprise. Greater distances must be kept between the lines of infantry following behind each other, owing to the great depth of shrapnel fire; the intensity of fire has contributed to loosen the fighting formations of infantry, which in turn causes the battlefields to increase in extent out of proportion with the number of troops engaged. All this taken together requires reconnoitring to be done more rapidly, so as to group the forces early, not only according to the wants of strategy, but of tactics and the future conduct of the action itself as well. Modern fire affects, of course, the tactical employment of cavalry too.

The infantry being obliged to deploy for action early, still more so is this necessary for cavalry, which presents a more favourable target than its sister arm. Nor can it hope to escape the effects of the enemy's artillery by the rapidity of its movement when the guns are properly served; it will suffer grievous losses if it comes under effective shrapnel fire when in dense formations. Cavalry must, therefore, adopt loose formations early in action so as not to afford the enemy's artillery a good target. The occasion for cavalry to charge infantry under specially favourable circumstances will also be rare, considering the formations in which infantry fights and the effect of modern fire-arms as described already in another chapter.* But when cavalry is obliged by circumstances to charge the front of troops steadily firing, the form of charge must be altogether different from what it was before. It can no longer use the line in two ranks when charging infantry in action, as that would be simply self-destruction. The cavalry will try to cross the dangerous zone at its greatest speed, several lines deep in single rank, with intervals between the troops, and with closed bodies in small columns in the rearmost line. It will, if possible, advance on the broadest front permissible, and from different directions, so as to distract the hostile fire. Frontal charges made on artillery lines have more chances to succeed than on infantry firing, if the charge is delivered in suitable formation. But it is hardly ever likely that on the battle-fields of to-day artillery can be charged in front without the necessity of charging infantry at the same time. Charges on the flanks and rear of artillery, however, have great chances of succeeding now as before. But these will be of very rare occurrence in direct co-

*Vol. i., book i., chap. ii., p. 39.

operation with infantry, and then only on a small scale. The cavalry is thus almost completely driven away from the common battlefield of the other arms by the modern weapons, and mainly restricted to acting on the flanks and rear of the hostile army. On the other hand, cavalry is now itself equipped with firearms, and can use them when charging is impossible. This opens to cavalry new spheres of activity, which promise great and important results if it understands how to make full use of its mobility, by being mounted, for acting in decisive directions with its firearms.

Firearms absolutely rule tactics to-day, and dictate to tactics their laws. They have altogether changed the conditions under which cavalry can act, conditions which the cavalry cannot disregard without losing its place in modern war. The way in which it must act in future will be described in another chapter.

The need for greater fire effect that asserts itself in all branches of warfare has even led to our falling back on methods which seem to be altogether antiquated. For close combat, especially for the possession of entrenched positions and permanent works, it has become necessary to look for some means of compensating for the artillery fire which cannot accompany the attack up to the last stages, nor support the defence to the very last. So we have fallen back on hand grenades, which, at close ranges, are hurled into the enemy's works, where they explode. Such projectiles may also be thrown from small mortars. The development of these missiles is not yet in its final stage; more may be expected of them in the future.

Krupp has lately constructed a contrivance for throwing bombs that will probably be of much service.* A bomb filled with high explosives, and fixed to

* "Kriegstechnische Zeitschrift," vol. v., 1910.

a guiding rod, is inserted into the loaded cannon at the muzzle, with the guiding rod first, and in such a way as to bring the bomb to sit on the muzzle, whence, on discharge, it is thrown forward with sufficient accuracy at a high angle of elevation. The projectile, weighing over 80 kilograms, attains a maximum range of 300 metres, and owing to its very steep trajectory can be thrown behind any cover. The cannon rests on a gun-carriage that can be put on wheels, and is narrow enough to be moved about in the trenches. Its effect is solely due to the fire, smoke, and air-pressure produced by the enormous explosive charge. Nothing can keep alive in its proximity. The suffocating smoke and the poisonous gases will make it probably impossible for any one to occupy the parapet behind which some of these bombs have exploded. Perhaps obstacles can also be destroyed by these projectiles, and men be rendered unconscious in the defences of the ditch. The importance of this new arm can only be established by experiments.

The efforts also for fighting balloons with artillery have already produced some fair results. Captive balloons can be brought down easily by any field artillery with shrapnel fire, and against non-captive balloons and other air-craft good results have already been obtained with guns designed especially for that purpose.

The perfection of firearms having thus plainly affected the tactical employment of all arms and their formations when in motion or in action, to such an extent as to cause protection to be sought, against undue losses as well as against view, by an increased use of natural cover, by looser fighting formations, and by movements at night, has led, on the other hand, to greater value being attached to artificial cover.

The infantry, which is the most exposed, made the first efforts to guard against the effects of the enemy's fire. Trials were made to protect the skirmishers by bullet-proof equipments (Dove's cuirass) ; recently the knapsacks were armoured, so that the infantry men should find some cover when lying down behind them. But all these devices are of no practical value so far. Extensive use, however, has been made in the last wars of earth cover, constructed before and during an action; and we may be sure of similar efforts being made in future.

Shallow trenches for skirmishers lying down chiefly protect against frontal fire of infantry; deep, narrow trenches for firing standing, which are sometimes provided with splinter-proof overhead cover, give protection from shrapnel fire as well. Strong overhead cover provides protection against high-angle fire for supports held in readiness close in rear of the foremost line; covered approaches allow reserves to be led forward into the firing line unseen and without loss. If time and material are available, closed earthworks can be built to form specially strong pivots of a defensive position.

Artillery, too, feels the need of cover. This is clearly seen by their efforts to take up covered positions and fire indirectly. It has also led, as we have seen already, to the introduction of protective shields, which give fair cover from frontal shrapnel and infantry fire. Batteries facing each other frontally cannot therefore hurt each other much by shrapnel fire. We must try to cause damage by full hits of common shell. The composite projectile of the German field howitzers will, without doubt, prove particularly effective for that purpose. We can also endeavour to obtain hits behind the shields by oblique fire. To meet

such fire it has been often proposed to use broader and curved shields. But these could not procure complete cover either. At any rate, a frontal duel between artilleries of equal efficiency can only be decisive to-day if a large amount of time and ammunition is spent; artillery can, therefore, hold out for some time under the fire of hostile artillery without even sufficiently replying to it. Both these points are important for the tactical conduct of an action.

Cavalry, when it decides to use the carbine, will feel the want of entrenchments as well. The Boers in Africa, who were really fighting as mounted troops only, have, as we saw, made continual use of entrenchments. But the experiences gained there scarcely apply to European conditions. The African horsemen seem to have carried their entrenching tools in their oxen wagons, and it is only due to the incredible slowness of African warfare that the tools were always in time for use. This would be impossible during active operations in Europe. Here, the experiences of the American War of Secession may rather apply. During the great cavalry combats of those days, use was also often made of firearms, but we hear little of cavalry entrenching, while infantry did so extensively in the defence; the actions came off too rapidly and energetically for that; and so they will probably in a future war. Still, cavalry may often find itself in future in situations where it will be obliged to entrench for an obstinate defence, especially in localities. The fewer means cavalry has for that purpose, the more it needs to make the best use of ground and existing buildings for neutralizing the effect of modern arms.

The preceding comments having demonstrated that, in field operations, fire and cover have increasingly

affected each other, we see that the same process, but to a greater measure, has taken place in fortress warfare. The heavy garrison guns have also developed in a manner altogether surprising, and attained ranges and force of percussion necessarily affecting deeply the construction of permanent fortifications.

Where it was a question of securing certain objects against being *reached* by hostile fire, the works covering them had to be pushed further forward to meet the longer range of the guns; where, on the other hand, cover was to be provided from the *effects* of that fire, the defender was obliged to have recourse to altogether new constructions. Under no circumstances could he suffer the attacking artillery to be superior in this respect. If, in active operations in the field, the construction of cover is not always convenient, though often an auxiliary means that cannot be avoided, effective cover from the enemy's fire in fortress warfare is by itself the determining factor. And thus, to attain complete cover, concrete and armour plates were adopted, efforts being made as far as possible to secure the objects against hostile fire by their position as well.

Under the force of circumstances two typical forms of modern permanent fortification have been evolved, namely, large army fortresses, and barrier forts. The object of the latter is to block certain communications, and to secure the possession of some important points in the country, whence the surrounding ground can be commanded by artillery; and, where coast defences are concerned, to sweep the channels or defend points specially favourable for landing. The large fortresses, on the other hand, are meant to secure the possession of large towns, which, for some reason or other, are of strategic importance. It being impossible, owing

to their size, to secure them by continuous lines, we surround them with a chain of forts pushed far in advance, which must possess great power of resistance, and form, as it were, pivots of defence. The intervals between these works are defended by the garrison of the fortress, and strengthened by suitable entrenchments. Intermediate works and ammunition depots, of permanent construction, are to facilitate an energetic defence.

The disadvantage of these large fortresses is their extent. They need strong garrisons for their defence and take away forces from the field army. We must, therefore, when constructing such fortresses, always impose some limitations on ourselves as to the number of points to be fortified as well as to their extent. But the various defensive works, be they barrier forts or forts of a fortress, we must withdraw from the enemy's sight as much as possible, by site and structure on the one hand, and on the other must make them as capable of resistance as possible. Overhead and outside cover are made of concrete, and the guns are placed in the permanent works protected by armour. Observing stations are armoured, too. The flank defences of the ditches are secured against direct fire by being placed behind the counterscarp, or sunk in the bottom of the ditch, where they can scarcely be struck by direct fire.

In the face of these new means and kinds of fortification, the siege artillery adopted guns of a calibre growing larger and larger; accuracy of fire was striven after as far as possible, so as to pierce the solid cover and hit the small targets presented by the armoured cupolas topping the armoured turrets. These things developed pretty well alike in all the great armies. In Germany, the garrison artillery is equipped with

15-centimetre howitzers—being the same gun as the heavy artillery of the field army—with the new 21-centimetre mortars, and with long 10-centimetre and 13-centimetre guns, which later have replaced the long 15-centimetre gun. The 15-centimetre howitzers are chiefly meant for fighting down the artillery and infantry positions. The field artillery is co-operating with these guns in the defence as well as in the attack. The 21-centimetre mortars are mainly used against the strongest works of the enemy, and against guns protected by armour. These latter are partly heavy guns for distant ranges, and partly quick-firing guns of small calibre for close defence and for sweeping ditches and obstacles.

It is, however, not anticipated that decisive results will be obtained with these guns against modern cover. All that can be obtained, perhaps, is a temporary throwing out of gear of the armour turrets' mechanism, thus causing their fire to be kept down. But experiments in peace and experience of war have demonstrated that heavier guns than those mentioned are wanted actually to demolish modern works. If we bear in mind the enormous strength a real modern fortress may possess, we must realize from the outset that considerably stronger guns must be used than our 21-centimetre mortars.*

For instance, 200 armour turrets have been ordered for the fortifications of Antwerp, each turret being armed with two 15-centimetre guns; for some fortifications of Reval, 20 armour turrets for 30-centimetre guns are said to be provided; and in America, gun-trials have been made against armoured concrete more

* The experiences of the attack on the forts of Liège and Namur show that the Germans have obtained these heavier guns since this was written.—*Editor's Note.*

than 6 metres thick. Modern artillery must take account of all this kind of cover in fortress warfare so as at least to match it.

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The art of war has, perhaps, profited most by recent progress in practical science; the rage, even, for being as modern as possible in that field goes in many ways far beyond what may be of practical value. We must not overrate the importance of practical inventions for war, nor, above all, imagine that mechanical appliances, be they ever so excellent, can make amends for deficiency in military and moral qualities. But we must, on the other hand, with inexorable logic and consistency, theoretically and practically, draw the consequences actually and necessarily resulting from this progress in technics. To foresee these actual and necessary consequences of new mechanical achievements, and to take notice of them in practice, is one of the most essential tasks in the preparation for war even, and Prussia especially can boast of brilliant successes in this domain in times past. To examine the achievements of modern times from this point of view seems, therefore, a task especially needful.

We have seen that the effect of modern firearms exercises a great and direct influence on the character of the combat, and, therefore, on the conduct of an action; and we had to acknowledge that, indirectly, strategy is affected as well by the altered nature of battle.

It is just the reverse with the influence of the means of transport on the conduct of war. They *directly* increase strategic mobility of the troops, and benefit the strategic grouping of the forces; but *indirectly* they are of some importance for the conduct of battle, by promoting the independence of the troops of their lines of communication, by facilitating the bringing up

of supplies, and by creating possibilities for concentrations and movements which did not exist formerly. Commanders acquire thereby greater freedom of action.

The most important means of transport are, of course, the railways, which alone make it altogether possible to concentrate, move, and supply the huge numbers of modern armies. The efficiency of this grand means of communication has been substantially raised since the last great wars of Germany. All the Great Powers of Europe have striven to enlarge the railway nets, often even from a military point of view chiefly.

In case of war, the whole railway service is placed under military authority. All railway administrations, with their whole personnel and matériel, come under the military railway authorities. The whole railway service, as applied to military purposes, is in Germany controlled by the Director of Field Railways. Most of the railways continue of course to work as in peace generally, even in case of war. Those lines which come under war conditions are expressly named. They will be those lines which are considered as being in the theatre of war or in its neighborhood. On these lines, too, the railway service remains in the hands of the civilian railway directors and administrations, but the basis of all traffic on them is the military timetable. How far the carrying capacity of the railway is to be made use of is decided by the Director of Field Railways, who also issues orders as to whether, and to what extent, public traffic may be allowed. Public traffic is never allowed, as a matter of principle, on the lines in the actual theatre of war.

"Military management" takes the place of war management on those lines which have been captured dur-

ing the war, or have been constructed by the military authorities. "Military management" may also be ordered for lines which work under peace or war management. In that case the military directors of railways take over the administration and control of the lines.

Owing to the importance the railways have gained to-day for all movements of troops, it is not only a question of making use of all existing railways; it may also become necessary to build new lines, to repair those destroyed by the enemy, and, on the other hand, to render useless lines used by the enemy, or those which we must leave in his hands.

Special means of transport will still be necessary to communicate between railheads and troops, and the amount of transport must become the greater the more the troops outdistance these railheads. The importance of these means of transport grows when only few railways are altogether in the theatre of war, and when the army conquering invades the enemy's country, where all the railways have been thoroughly demolished, and when, lastly, we do not succeed in rapidly and completely repairing what has been destroyed.

In all European wars, draught animals were almost exclusively used, so far, for this kind of transport, exceptionally, perhaps, pack animals. But it is obvious, and is confirmed by experience as well, that this mode of supplying troops is bound to be very slow and difficult. The draught or pack animals need first of all themselves a good deal of supplies, if they are to keep efficient; and secondly, their power of marching is certainly very limited—at any rate, not at all materially greater than that of the troops themselves; and this causes the troops sometimes to re-

strict their movements out of regard for supplies. It was, therefore, one of the first problems for mechanics to design means for limiting, as much as possible, transport by animal power.

Motors now do away with this defect. They are the latest achievement in military transport service, and seem specially fitted for facilitating materially the transport of goods behind the armies. All draught animals can now be spared, which is of greatest importance; a few vehicles can carry very much greater loads than those of draught animals, and the speed of these vehicles is much greater than that of the former columns, thus enabling the troops to be supplied without their needing to shorten the marches demanded by strategy.

Whenever personal reports or communications between distant headquarters are of importance, or even desirable only, the motor-car is a suitable means of conveyance. The car is certainly tied to good roads, but then there is no need for shunning little detours since, owing to its speed, the car can cover in a very short time even long distances. Motor-cars are also suitable for conveying orders. These cars make it possible for superior headquarters to remain longer in billets for further work, and yet to be in their new quarters at the proper time. They can also be used for guarding telegraph lines and sometimes signal stations; the small autos especially can relieve the cavalry very much of orderly and relay duties. The private motor-cars are thus on the border between the means of transport and the actual means of communication.

But we cannot warn too strongly against overrating the efficiency of motor-cars, and, thus, their military importance. Their mechanism is still very delicate,

and easily deranged, when not treated carefully, and when not kept clean. Damage to tyres is of everyday occurrence; barricades, wire entanglements, and similar things, cleverly arranged, may easily prove fatal to motor-cars, especially at night. Their use is, therefore, chiefly confined to the roads within safe reach of our own troops, and not too much endangered by hostile inhabitants. The cars will, of course, be also used sometimes in districts threatened by the enemy, but in that case we can never count for certain on a journey being successful. The performance of this kind of conveyance depends on many conditions, which may easily upset all calculations. Their use as a means of communication in the foremost line, or even for reconnaissance, is therefore very limited. We have built armoured motor-cars, it is true, which are to be used in enterprises likely to be interfered with by the enemy, and have even armed these cars with light guns and machine-guns, but no serious military value can really be attached to these experiments. By being armoured, these motors lose their chief advantage, namely speed and handiness.

The whole telegraph service is organized to accompany and facilitate operations in a successful offensive war. But whether it will be always possible to establish and change communications seems rather doubtful. The demands made in this respect are exceedingly exacting, and can scarcely be met, especially when retrograde movements become necessary. To take up and relay lines behind an army advancing is always possible; but when we retire, we will often be obliged to abandon the material; the possibility of permanently maintaining telegraphic communication with Headquarters of Commands will then be doubtful; and if we further bear in mind that in vast

districts the lines will be threatened by the population or hostile patrols it becomes obvious how exceedingly important it is to have means of communication not dependent on connecting wire.

This want is met by field signalling appliances and wireless telegraphy.

The former is an optical telegraph with which either sunlight or a powerful signalling lamp is used.

Far more useful and applicable is wireless telegraphy. By it communication can be established for long distances, and without visual connection, and it is almost altogether independent of weather and ground. But, electric waves extending in the air in all directions, there is the disadvantage of foreign apparatus reading our messages as well. We guard ourselves against this by using cipher, and adopting special measures.

The equipment of wireless stations is very complicated and bulky, and must be carried on wagons. A thoroughly trained personnel is necessary to serve it. Its use with the troops is, under these circumstances, inadmissible. But wireless telegraphy is excellently adapted for connecting the highest commands with each other and with the advanced army cavalry, which should be equipped with wireless stations as a matter of principle. The apparatus taken in the field can safely transmit intelligence up to 200 kilometres, as far as it has been developed to-day. Good service will also be rendered by wireless telegraphy in connecting besieged fortresses with the country outside, and in the defence of coastlines. Probably all countries have therefore established permanent wireless stations in the big fortresses and at other important points. It must further be assumed that all European armies have similar arrangements to our own, and that we ✓

can hardly lay claim to being superior in any of these technical departments.

Modern technics have thus tried to ensure the safe transmission of intelligence in all sorts of ways and manners; and though each of the means has its weaknesses and disadvantages, yet, taking them all together and in combination, they will, in a most decisive manner, contribute to making it possible for the modern armies of masses to be led. Their importance for active operations in war cannot be rated too highly.

These means of communication will materially aid command in battle too. With the size of modern armies and with the extension of battlefields consequent thereon, it is much more difficult than formerly to ensure the safe transmission of orders and reports; on the other hand, it has become very much more important for proper connection to be maintained with subordinates in action, through the fact that the size of the masses employed makes it very difficult to counter-order measures once adopted. To-day it is therefore still more important than formerly to have reliable means of communication between commanders.

If intercommunication between the leaders, and between them and their troops, is only maintained by mounted men (adjutants, orderlies, etc.), uniform control of an action is possible only within a comparatively limited space. Mechanical communication must therefore step in for longer distances. If the roads are favourable, motor-cars can be used for that purpose; sometimes flag and field signalling may be worked; and lastly, telegraph lines can be laid as well on extensive battlefields if the corps telegraph detachments are requisitioned. But the most suitable appliance for such purpose seems to be a telephone ✓

that can be easily handled. These considerations have led to *telephone detachments* being formed for headquarters of superior commands; these detachments are equipped with 8 kilometres of a light field cable that can be laid in about twenty minutes per kilometre. The stores are carried on a wagon, which also carries the men. Telephone connection ensures direct personal intercourse between the commands concerned, but this at the same time harbours a certain amount of danger. It is, that superior commanders may feel tempted to encroach upon the sphere of subordinate leaders by meddling with details without being able to judge of what is going on; and that the subordinate commanders may try, by asking questions, to shift to higher quarters responsibility which it is their own duty to take. Demoralization may also easily spread from one command to the other by means of the telephone. The apparatus must therefore be used with deliberate caution, and only by the proper authorities. The advantages it affords are so great, however, that we cannot dispense with its use on the battlefield. Good use can also be made of the telephone detachments when the troops are at rest, either to connect the main body in quarters with the reserve of outposts, or army corps headquarters with the divisions, and these with each other when the corps telegraph detachment is not available.*

* Reliable reports say that a simplification of the field telegraphs is planned, and has already been tried at the Emperor's manoeuvres in 1911; namely, the corps telegraph detachments, less the Morse apparatus, have been amalgamated with the telephone detachments of the higher commands to form larger telephone units. These will be at the disposal of army corps commanders, and used by them in sections according to wants. The telephone detachments with the troops are not affected by this reorganization. ✓

The troops themselves, with their present tactics, have also felt the want of telephone connection of the various units with each other and with their commanders. The troops have therefore been equipped with *telephone appliances* as well.

The covered positions taken up by artillery, when the leader is often at an observing station some distance from his command, have made it necessary to connect him with his men by telephone to make it possible for him to direct the fire. But the difficulty of bringing to the knowledge of subordinate officers the orders of the higher artillery commanders in the long artillery lines, especially when stationed in groups, often makes telephone connection between the various commanders a necessity too.

The infantry telephone is very suitably applied on outpost duty; and, as personal transmission of orders is almost impossible during an attack, the infantry tries to make the best of signalling flags and telephones in action, as well. But these aids are scarcely to be relied upon. When the powerful material and psychical effects of an offensive action assert themselves, there is no room at all any more for the special issue of orders demanding deliberation and an altered course of action; one law prevails then alone: the iron will to beat the enemy.

We must finally mention the latest achievements in technics, namely, *aeronautics*.

The various kinds of air craft, like the motor vehicles, are important as a means of reconnaissance, of communication, and of transport; and they promise to be much more so than hitherto. For the present, of course, airships and flying machines cannot be considered quite perfect for war service. But it is merely

a question of time for that problem to be completely solved by mechanics.

The Zeppelin airships are, owing to their size, very stable, have great lifting power and a wide radius of action. They are, moreover, in so far safe against injury as the gas that carries the balloon is distributed among a good number of independent gas-tight compartments; the balloon, therefore, need not necessarily come down, if some of them have been emptied. But these airships have this against them, that they cannot be taken to pieces, but must be shelved in special sheds, and that they cannot be transported. An empty Zeppelin balloon can only be moved for a very short distance, and then only with the aid of a very great number of men. To use these airships we need, therefore, specially prepared anchorages. At the beginning of a war they will go forward from the permanent sheds established in the frontier districts, and can then return to them after finishing their trip. But when we advance into the enemy's country, we must carry portable sheds if we wish to continue using these ships. And so these have already been provided; they can be taken by rail, and have proved their worth at trials in manœuvres.

Compared with the rigid airships, the semi-rigid and non-rigid airships have considerable advantages. The semi-rigid balloon is quickly mounted, the gas being applied direct; owing to the rigid frame or keel to which it is attached, it possesses comparatively great solidity; it can be taken to pieces and moved about, and therefore be used without requiring a shed. The rigid keel, however, which can be taken to pieces, makes the ship need several wagons for transport. The size of the ship, as used, so far, in Germany, prevents it having the carrying capacity or the wide

radius of action of a Zeppelin ship. But its present measurements are not at all final, and may easily attain those of a Zeppelin balloon, as matters stand to-day in the world of technics. The Parseval airship is still easier to get ready and to dismantle than the military semi-rigid airship, and can be transported on two wagons. The disadvantage of both these systems is that any serious injury to the cover will infallibly bring down the balloon, since the gas is not distributed in numerous independent compartments as in the Zeppelin. Still, both these kinds of airships, semi- and non-rigid, can directly accompany the troops, and be used anywhere. This renders them always much more useful for military purposes than Zeppelin's system, which is, moreover, much more dependent on the weather, and has yet to prove its military worth.

It is, of course, an advantage if sheds can be provided sometimes for semi-rigid and non-rigid airships, as we then need not empty and refill the balloons again when in daily use. Portable sheds, taken into the field, will benefit these airships too.

CHAPTER V

THE IMPORTANCE OF CAVALRY

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THE fire of modern rifles and guns has deeply affected the tactics of the three arms, as we have seen. While it has altered only the form of fighting of infantry and artillery, and the manner of their tactical employment, without touching the importance of both these arms as a whole, and within the army, it has had a far greater influence on cavalry. Not only the *tactical formations* used by cavalry in action have changed, but its *employment* is *altogether different*.

The effect of modern firearms, with all its consequences, has caused occasions for successful charges against firearms to be of very rare occurrence in the latest wars, and they will be rarer still in future. Such charges have, however, positively ceased to be of decisive importance in battle, by reason alone of the comparative small numbers of cavalry. Owing to the enormous size of modern armies and the extent of the battlefields, a successful charge of even so large a body as a cavalry division could no longer bring about a decision by itself. But the cavalry has nevertheless hitherto stuck to the fiction that its relation to the other arms was still similar to what it was formerly—that an action of the three arms combined was possible even to-day, as in the days of Frederic and Napoleon. The cavalry looks now, as it looked then, upon a charge in battle as its paramount duty; it has almost

deliberately closed its eyes against the far-reaching changes in warfare. By this it has *itself* barred the way that leads to great successes. The responsible military authorities have failed in the same way. Very reluctantly the cavalry was armed with firearms, at first even with quite useless weapons, and it is but very recently that the German cavalry got an efficient rifle; its use is still looked upon as quite a subordinate matter. The tactical exercises of cavalry divisions are still carried out as of old; we still cannot bring ourselves to enter heart and soul upon the tasks imposed on us by the new order of things. Superior commanders, too, are still imbued with obsolete ideas, and employ cavalry according to these ideas. The Emperor's manœuvres in 1909 furnish an interesting example of this. Cavalry owes its decline to all these circumstances. But whether it will gain in future the place due to it will, above all, *depend on whether the rank and file will resolve with open eyes to break with the ideas of the past, and devote themselves to the tasks of the present without reserve.*

The German cavalry need not, for all that, give up the hope of successfully charging infantry and artillery. Any one who wished to deduce from my remarks that I thought the time for such charges was a thing of the past would completely misunderstand me. I am rather of opinion, and have always stood up for it, that modern infantry will sometimes present a favourable object for a charge, especially when it is a question of infantry of the second and third lines. If such infantry is demoralized by the dissolving influences of modern action, is out of hand of the commanders, and no longer fires deliberately, it will easily enough become a prey of a bold cavalry charge from various directions if the ground offers at least some

advantages. Such situations are sure to arise even to-day, especially in pursuits. The enemy's artillery, standing far behind the foremost fighting line, can also often be attacked by cavalry, though not in front, yet from the flanks, and especially in rear, if the enemy has used up his reserves.

Obsolete I only hold to be that opinion which thinks that the *main task* of our cavalry is to co-operate directly with the other arms and to charge in battle; which desires to subordinate all action of cavalry to this task, treats fire-fight of cavalry merely as a last resource, and would like to restrict the strategic freedom of that arm by constant deference to its possible employment on the battlefield.

If the cavalry takes the field in a future war with notions of that kind, it will *certainly not* give us that advantage which we otherwise can expect, and have a right to expect, from it.

The relations of cavalry to the other arms, and altogether to the conduct of war, have, as a matter of fact, completely altered. *An action of the three arms combined in the old sense*, as is still hovering before the mind of our cavalry soldiers as a delusive ideal of bygone times, is *no longer feasible at all*. The participation of cavalry in the decisive action of infantry and artillery is no longer necessary. All the more important it is to be absolutely clear on the tasks which a future war will demand the cavalry to solve, and on the mode by which these tasks must be solved. The superior commanders and the cavalry itself must learn to deal with these problems, and prepare themselves to carry them out, if the cavalry is to continue to be a useful instrument of war in the future.

Reconnoitring and *screening* must be mentioned first of all in this connection. Both have eminently

gained in importance under modern conditions. Advantageous as it is to have as accurate and as early information as possible on the enemy's measures, and to screen our own concentrations and movements with the object of surprising the enemy and increasing thereby the chances of success, the advantage will be all the greater when great masses are concerned. The larger the armies are which are being moved, and the longer it therefore takes to concentrate them or change their direction of march, the more important it becomes to reconnoitre in time, so as to be able to initiate early enough the measures which may have become necessary through the facts ascertained by reconnaissance. Modern arms indirectly influence reconnaissance in so far, too, as, owing to the long-range and effective indirect fire of artillery, we must deploy for action sooner than formerly. It will be very exceptional for superior commanders to reconnoitre personally before such deployment. They are thus almost entirely dependent on the results of cavalry reconnaissance, not only for their operations, but also for their dispositions for battle. This makes cavalry reconnaissance all the more valuable, but also calls for greater efficiency of that arm.

The cavalry must precede the armies as far forward as possible, to beat the hostile cavalry and push it back vigorously, so as to allow our own patrols to approach rapidly the hostile columns and discover their movements. So long as an efficient hostile cavalry is in the field, our own will be hampered in all its enterprises, and accordingly obtain little information. We must further bear in mind that the enemy's cavalry may decline to fight with cold steel, using the carbine instead, and be supported in this action by detachments composed of all arms. The

cavalry must therefore be prepared to undertake independent operations of an extensive nature and be able to beat by dismounted action strong hostile forces, or to turn them. If it can do both, then, and only then, will it carry out its object.

Offensive power is, however, not enough for cavalry; it must have also learned to push out its reconnoitring bodies rapidly and systematically, and to send back as fast as it possibly can to the headquarters concerned the early information it has obtained. Great horsemanship, combined with daring boldness and vigilance of patrols and reconnoitring squadrons, are necessary to attain these objects; all mechanical means must, moreover, be used to promote rapidity of gaining and transmitting intelligence of decisive importance. The army cavalry must therefore be equipped and conversant with wireless telegraphy, telephones, signalling apparatus, and flying machines. The cavalry must also keep as much as possible in constant touch with any dirigible airships that may be available. The airships must arrange their action so as to work ahead of the cavalry, and furnish it with intelligence about large concentrations of the enemy or their approach to enable the cavalry to adopt its measures accordingly. These ships must therefore beat the enemy's airships and flyers, and start early to meet them with that object. To ensure co-operation in reconnaissance on land and in the air, it will often be advisable to place the cavalry and airships under one uniform command. The intimate co-operation of these two arms will best ensure success. We will also be obliged to attach to the cavalry specially designed guns to support our airships in their fight against those of the enemy, or to fight them independently.

Early reconnaissance is particularly important to

that party which has resolved to remain on the *defensive*, strategically or tactically. That party has then surrendered the initiative to the enemy, and must conform to his will. It cannot arrange for suitable measures of defence until sufficiently informed as to the grouping and main direction of attack of the enemy; it runs the risk of being too late with these defensive measures, if it does not receive correct intelligence about the enemy's measures in ample time. At the same time, it will be its concern to screen the position of its own reserves, so as to deliver a counter-attack by surprise. *The assailant*, on the other hand, who seizes the initiative and imposes his will on the enemy, is in the first instance interested in *screening* his concentration and his main direction of attack so as to act by surprise, and thus make it impossible for the enemy to adopt his counter-measures in time. But it is also desirable for him to gain a knowledge of the strength and grouping of the hostile reserves, so that he may not come unexpectedly on stronger forces than he had anticipated. In this way the cavalry has always to face the double task of simultaneously reconnoitring and screening; and it will often have to decide on which of these activities it has to lay the greatest stress. When screening, it will, above all, be a question of warding off with firearms any hostile attacks, because effective screening is, generally only possible by defensive action in combination with ground. Sometimes only when advancing must we try to screen offensively by boldly attacking every hostile party, down to a single patrol, pushing them back, and endeavouring to capture the enemy's dispatch-riders. If screening is to be supported by airships and flyers, it can be only done offensively by attacking the hostile aerial fleet and trying to render it harmless.

When we are reconnoitring, and not screening, we must always try to come to close quarters with cold steel, as we wish to attain our object quickly, and must therefore decide an action rapidly, and that can only be done by charging. In case of need only, when there is no other course open, must we have recourse to the carbine. Since both parties have an equal interest, as a rule, in gaining rapid success, we are justified in assuming that during the first period of a war there will be great cavalry charges, and that only that party will have recourse to firearms which, from experience, has become aware of the enemy's superiority when charging; the party using its firearms must then be beaten by dismounted action as well. From this it follows that cavalry, intent on carrying out its duties, must also prove superior in dismounted action, so as not to lose in fire action the superiority it has gained with cold steel.

In addition to reconnoitring and screening, the cavalry must at all cost *act on the enemy's lines of communication*. This is of the utmost importance in modern war. The larger the armies, the less they are able to live on the country; the quicker and the farther the firearms shoot, the more ammunition will be spent. In equal measure grows the importance of supplies and of the lines of communication; the interruption of regular supplies may prove then all the more fatal. Here, therefore, is a field for the cavalry to achieve far-reaching successes. Even tactical decisions may be affected, at least indirectly, by the enemy's supplies of ammunition being cut off directly in rear of the battlefield.

In view of these dangers threatened by cavalry, both parties will take pains to guard in sufficient strength with troops, at least of the second and third

lines, those communications which may be endangered. It will therefore not be easy for the attacking cavalry to carry out its mission. It will not only have to beat the enemy's cavalry, which will certainly oppose it, off the field, but it must also operate independently on the flank and in rear of the enemy for days, and perhaps for weeks, entirely separated from its own army, and be able to capture by swift attack any supply columns on the march or while parking, as well as depots on the lines of communication. The cavalry must therefore be specially equipped for these duties, and have substantial fighting power, not only mounted, but above all dismounted. If its own strength is not sufficient, cyclists must be attached to it, because a *combination of cavalry with cyclists* will undoubtedly prove altogether extremely effective.

Fears have been expressed that enterprises against the enemy's communications might jeopardize the participation of cavalry in battle, and thus, of course, its participation in pursuit or covering retreat as well. The German cavalry training, too, warns, as it were, against these kinds of enterprises,* because the cavalry might be diverted from what is still considered its paramount duty—namely, charging in battle. Views forming the basis of such regulations are in no way in harmony with the requirements of modern war, and completely misjudge the relative value of employing troops. I think, moreover, that the objection of raids diverting a well-led cavalry from its proper duties is perfectly untenable. If the raid is made in a decisive direction—that is to say, in a direction in which the commander-in-chief has decided to bring about the final issue; if the cavalry commander is

*“Exerzier Reglement für die Kavallerie,” paragraphs 527 and 395.

kept constantly informed of the intentions of general headquarters and on the general situation, which seems feasible by wireless telegraphy or by some other means, he can easily move towards the enemy's army when the crisis is approaching, and appear on the day of battle on the flanks and in rear of the adversary like Stuart at Gettysburg. The raid itself will lead him in the decisive direction.

He who wants to keep the cavalry always in close proximity to the flanks or even behind the battle-front, will never derive any advantage from that arm under modern conditions; the cavalry will in that case stand idling about on the battlefield, vainly waiting for its chances to come. Freedom and movement, together with every kind of action, are the life and soul of that arm, which is bound to decay if it does not succeed in adapting itself to modern requirements.

The cavalry in the North American War of Secession, approaching its tasks with an unbiassed mind and not being hampered by tradition and routine, soon found the right way for great activity. The South African War, too, is very instructive in this respect. General Buller, who seems to have been still imbued with perfectly antiquated ideas about cavalry, always wanted to have that arm on his flanks to cover them, even when they were not at all threatened; he thus hampered all freedom of action of cavalry. The consequence was that his cavalry did nothing. General French, on the other hand, took the opposite stand. Extensive raids around the enemy against his flanks and rear was the principle of his action, and he would have done even more than he did in this direction, had not General Roberts repeatedly clipped his wings and held him tight, and had not the horses completely broken down. But the fundamental ideas of his

cavalry leading were undoubtedly right, strategically as well as tactically. A warm adherent of cold steel and ever ready to charge, he still knew the full value and importance of the firearm, and never hesitated to attack dismounted whenever it suited the case.

But it has not only been asserted that raids against the enemy's lines of communication will jeopardize the cavalry's participation in battle—it has been further asserted that these kinds of enterprises are not at all possible under modern conditions. The numerous lines of communication-defence troops, and the extensive telegraphic system of European theatres of war, would make it always possible to concentrate superior forces against such cavalry and paralyse its action. I think this view is wrong.

Certainly, at the beginning of the war occasions for such enterprises will be rare. When the French army is concentrating on one line from the Belgian to the Swiss frontiers, we cannot dispatch a cavalry corps on the French lines of communication. But when, during the course of the war, different and separate army groups will be forming—as will always be the case—a suitably-equipped cavalry will certainly be able to operate against the enemy's flanks and rear. If we study the campaign of 1870-71 from this point of view, we shall not be long before we arrive at this conviction.* Of course, the troops employed on such a raid must not only have considerable fighting power, but must also be equipped with columns and trains

* The German General Staff, too, seems to share my opinion. When discussing the great Russian raid under Mishtshenko against the lines of communication of the Japanese, the General Staff holds my view that the second period of the war in 1870-71 shows a whole number of cases where such raids could have been carried out successfully, and expressly emphasizes that the failure of the Russians was

capable of moving as rapidly as the troops themselves, making them, for some time at least, independent of the country, as well as of their own lines of communication. By destroying the enemy's railway and telegraph lines, as well as by spreading false intelligence, the raiding-corps must try to keep the enemy uncertain about its activity, and render his concentration for a counter-offensive difficult. By demonstrative movements, and rapid marches, sometimes carried out at night, the corps must deceive the enemy, escape his countermoves, and appear where the blow is least expected. It is, of course, altogether presumed that these demands are met when cavalry is employed independently in this way as well as in reconnaissance and pursuit. If these demands are satisfied, the raids will prove feasible too. Their importance is generally underrated. I not only think them possible, but a downright necessity, as we shall see when we deal with the strategic operations; and I believe that raids will not only favourably influence the decisive issue in battle, but also lead the cavalry in a favourable direction on the battlefield itself.

At the *final issue of battle* the cavalry divisions can also take their due share only if they are able to act with firearms in considerable strength. There being no longer any question of cavalry co-operating constantly and closely with the other arms in the way it is still done with infantry and artillery, the cavalry, combined into large masses, must try to intervene from the flanks of the line of battle, and to become effective chiefly by the direction of its attack. That

no proof against the feasibility of such enterprises in future. ("The Russo-Japanese War: German Official Account, the Raid to Yin-kou, and the Battle of San-de-pu," vol. v. Hugh Rees, Ltd.)

must be made against the flanks and rear of the enemy. Its mobility enables the cavalry to envelop the enemy's flanks and penetrate to his rear. It must not be afraid of abandoning, then, altogether its own lines of communication for the time being. It will always be able to regain them again. If it is opposed by the enemy's cavalry, that cavalry must be attacked without hesitation, beaten, and pursued with portions of the force. This is presumed for all further enterprise. If it is successfully accomplished, then the road is open to great achievements. The moment has now arrived when the cavalry can render invaluable services to the other arms, though not in direct co-operation, by drawing upon itself hostile troops, and preventing them from intervening in the decisive issue. The victorious cavalry will first employ its artillery, machine-guns, and, if need be, its carbines against the enemy's flanks, reserves, artillery, and ammunition columns, and use every opportunity for acting offensively, mounted and dismounted, without, however, engaging in an obstinate fight against superior numbers. Its mobility enables it here again to get away, and rapidly reappear at another place. The cavalry must perpetually try to threaten and damage the enemy where he would feel it most, but must reserve its main fighting power for the moments of the crisis. At these moments it must not mind heavy losses if it can effectively contribute to gaining victory. It will resolutely attack and push back in good time the detachments the enemy has pushed forward for protecting his flanks and rear, and thus have the road clear when the final crisis arrives. It is then of great consequence that the cavalry should act effectively at all costs, and intervene in the decisive combat itself by charging, if that can be done, otherwise by fire action.

Of great importance is, lastly, the co-operation of cavalry *in pursuit*. Direct pursuit in front, as will naturally follow from the nature of the fight, must, of course, be chiefly left to the infantry and artillery, armed as they are to-day, because the bullet reaches farther and surer than the swiftest charge. But to pursue along the flanks of the enemy is the share of the cavalry, which must try to forestall the hostile march-columns, break into their flanks, and head them off, especially at places where the ground is favourable for causing delay to the flying enemy. The victory having been bought with streams of blood, the time has now come for reaping the harvest by inflicting on the retreating enemy losses twofold and threefold the amount we have suffered. Fire and cavalry charges—where the demoralization of the enemy allows it—must do here equal damage.

The fact that vigorous pursuit was never undertaken by cavalry in recent times, at least not in European theatres of war, has led people to think very often that the idea of cavalry pursuit is mere theory, and can never be turned into practice. I do not share this opinion, but think that this fact is simply due to the manner in which cavalry was employed, and to its defective equipment.

It is clear, then, that in almost all its spheres of action the importance of cavalry in war has very much increased with the growth of armies, though its employment differs somewhat from that of former times. But that army is sure to derive a great advantage which is firmly resolved to discard antiquated views and assign to its properly equipped cavalry those duties which modern arms and military exigencies have imposed upon it.

NOTE

[The March of Great Armies—General von Bernhardi discusses in detail the problem of the marching and supply of the great masses of men that form the armies of to-day. He points out that in order to diminish the length of the columns it will often be necessary to use the whole width of the road and march in double column, cyclist and motor companies of engineers going out in front to clear away obstacles and widen the road at difficult points. He also discusses the question of marching across country and night marching:

“Owing to the many roads sometimes required, but not available in the operations of large armies, we may want to shorten the march columns with a view to accelerating concentration on the one hand, and on the other of facilitating supplying the troops from the rear. To attain these objects, double columns of route are used. This makes the march itself more difficult, especially on dusty and bad roads; but it is only feasible if the roads permit the march to be continued on such a broad front during the whole time it lasts, or if narrow portions of the road can be turned. It is therefore advisable, if such difficulties are anticipated, to bring up some engineers who, covered by cavalry and cyclists, precede the column with the object of widening the road where necessary, of marking out a military road, or of making fords passable. We must, at any rate, avoid forming again the single column of route during the march.

Similar reasons to those necessitating the shortening of columns of route may sometimes induce us to march across country. When turning defiles, when deploying for action, and on other occasions, we must often leave the regular roads altogether. The troops must, therefore, be practised also in marching across country, so as to get rapidly over any difficulties that may arise.

The idea of performing long marches across country seems somewhat monstrous in our eyes to-day. We are so spoiled in making our operations dependent on roads that we can scarcely realize any other mode of operating. And yet it is quite natural, requiring nothing that has not been proved possible by the experience of wars of former times.

Frederic the Great's army often marched for miles across country. I need only mention Schwerin's advance to the Battle of Prague as an example of this. Engineer parties were often attached to the heads of columns to remove or bridge likely obstacles. We see these measures adopted already in the First Silesian War. Artillery and transport, if possible, used roads. We have not the least cause for assuming that what was possible then would be impossible to-day. The opposite is true. The engineers are to-day far more efficient than formerly, and the country is generally more cultivated and richer in roads. Even when we are marching across country we can now and then use roads, though not first-class roads, of course. There is no reason, either, why the artillery and transport of, say, two army corps should not march to-day, as then, on the road, while the infantry is marching on both sides of it, advanced guards going ahead, marking out and making possible the way for the infantry. This procedure may sometimes be very much more practical than marching two army corps behind each other by one road, or shortening the march columns. One thing is, of course, necessary, and that is that when marching in this way there must be one uniform command. If there is no metalled road at all, the artillery must move across country, too, and, in case of need, the necessary transports as well, if the object cannot be reached by a roundabout way. The marches must then be made shorter. Engineers will, in such cases, always precede the column. It will be as well to make frequent changes in the units marching at the head of the column, because they have the hardest task. If the track across country is once firmly trodden down, there are, as a rule, no longer any special difficulties. Of course, we do not march like this at ordinary times; but when large armies are closely concentrated marching in this way may greatly enhance their power of operating. Naturally, it is always desirable to have the country to be traversed reconnoitred beforehand.

"Like marches across country, so will night marches become necessary in a future war more frequently than hitherto. They will be used to escape, for instance, reconnaissance by balloons, to avoid losses by artillery fire, or to approach the enemy's position unobserved. If marches have to be executed across country in the dark, it is absolutely

necessary to reconnoitre the country minutely beforehand and to fix landmarks which cannot be missed even in darkness. Such marches cannot be arranged off-hand; they must be carefully prepared. The troops, too, must be practised in them, and acquire a certain amount of skill in marching by night if they wish to avoid disorder at decisive moments. At night we should not march in double column on roads, because difficulties increase in darkness, and controlling the column is easier if one side of the road is left free. But when marching across country it will be advisable sometimes to execute the movement in shorter and broader columns, so as to keep the troops better in hand."

In discussing the question of supply, he points out that with the huge masses of to-day it is impossible for an army to live on the resources of the country. It must depend on supply trains—usually of motor wagons—working from the nearest railhead, and drawing supplies of food, ammunition, etc., from magazines accumulated at advanced bases. This makes the problem of changing the direction of the advance a difficult one, and an operation against the line of communications, if successful, will have a greater effect than ever before, for the result will be that immense masses of troops will be in danger of starvation. He insists that instead of working the supply of a group of army corps as a single unit, it will be necessary to provide each corps with its special supply train, carrying such a reserve of supplies as will make it possible to keep the corps supplied for a few days either when the communications are endangered, or when a change of direction is being made and the whole general system of supply is being transferred to a new group of roads. He analyzes in detail several possible changes of direction in order to show how in each case the problem of temporarily supplying the troops and shifting the lines of supply may be best solved. He then returns to the general question of the handling of great armies in war.]

CHAPTER VI

SELF-RELIANCE, METHOD, AND COMMAND

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WE have seen that the fire of modern arms forces us to give up all close formations in action, and to form loose skirmishing lines in the foremost fighting line, as loosely as the necessity of effective fire will permit. The fronts in action correspond with this looseness, and with the wider extension of the skirmishing lines caused by it. The same number of troops can to-day embrace a far greater space than formerly if a greater organization in depth is not insisted upon. The artillery is, owing to the distant fire of the enemy's artillery, obliged to use indirect fire. The cavalry has almost completely disappeared from the common battlefield of the other arms. With the enormous size of the army have also grown enormously the extent of the battlefields and the areas of operation. The vital points in the existence of armies, their organization, and the method of moving them, are altogether different from what they were formerly. All this causes an absolute change in the formal conditions of strategy and tactics.

But with the forms so also have changed the spiritual means which give life to these forms. The army and its leaders must of course be animated by boldness and initiative as much, and, perhaps, even more to-day than in the wars of the past, if we want to be successful. But the physical and moral qualities by

which this spirit must manifest itself are, on the other hand, in many ways, different from those prevailing at the time of close formations. Especially must the influence of command be different from what it was formerly. In this regard no one has as yet arrived at a perfectly clear conception of what it should be, and in spite of completely altered conditions in actions and in operations, tendencies assert themselves over and over again, of working with means belonging to a past age. The latest wars show this in a striking manner.

It is, therefore, necessary to acquaint oneself thoroughly with the actual nature of modern war and combat, with the object of arriving at a perfectly clear conception of them.

Let us first of all present to our minds what a modern action demands from the two chief arms, and before all what the mode of action is which decides matters, namely, the attack, without which a victory can hardly be conceived. The infantry advances in widely-extended lines. The influence of commanders, as far as it is transmitted by orders, is small. Extension is too great, the noise of battle too loud, the tension of nerves too severe for the voice to be heard. Laboriously the most urgent directions are passed on along the line from man to man. At close and decisive ranges the example of the officers only prevails. But the enemy's projectiles reap a terrible harvest, particularly among the leaders, who are obliged to expose themselves most. All influence upon the men then fails, units become mixed, everybody is left to himself; the man as such becomes prominent, yet not the man who is *led* to victory, but the man who wants himself to conquer. Almost all the time he is in action he is left to himself. He himself must estimate

the distances, he himself must judge the ground and use it, select his target and adjust his sights; he must know whither to advance; what point in the enemy's position he is to reach; with unswerving determination he by himself must strive to get there. Arrived in the enemy's position, he must know what he is to do. If the attack is not progressing, if it is impossible to gain ground in the face of the enemy's fire, he must create cover for himself. If it comes to retreating, he must obstinately cling to the ground fighting.* Hardly ever can he count upon receiving directions from his superiors. But what holds good for the private, holds good all the more for the leaders of all grades. They cannot count upon receiving orders in the midst of fighting. It is as a rule impossible to send directions from the rear into the foremost fighting line. To count upon reliable communication by signs from the rear to the front is a fancy no serious soldier should entertain for one moment. Once the troops have come within effective ranges of the enemy's fire all regular and comprehensive issue of orders ceases. All success is entirely dependent on the clear-sighted action of individual groups and men, on the example of leaders, or of those who feel called upon to lead. This is what a modern infantry action looks like; *self-reliance is everything*. It was so, it is true, in the last wars, during the final stages of infantry combat, but in future the stage where initiative is everything will begin much sooner than formerly, and from the outset in a manner much more pronounced.

Artillery action will reveal similar features. So long as the batteries are under cover, are firing indirect, and are exposed only to sweeping and searching

* *Vide* v. Bernhardt, "Taktik und Ausbildung der Infanterie."

fire, regular control can certainly be exercised over large units. But when artillery has to unlimber in the open, and can be taken under fire, the effect of which the enemy can watch, not only the combined action of large units, but the issue of orders by battery commanders themselves will soon fail, or sometimes become altogether impossible. Sections and single guns will be obliged to fire independently, as often was the case in 1870-71; for the voice of the officer commanding the battery will not be heard, transmission by word of mouth will likewise become impossible in the din of battle, and soon numerous officers will have fallen. I am convinced we are deceiving ourselves if we believe a regular control of fire to be possible under these circumstances. The self-reliance of individual subordinate leaders and men, and not a uniform control, will be the decisive factor in the last instance.

These conditions are bound to exercise a far-reaching influence on the issue of orders. The troops can only act with self-reliance in a proper manner if they are thoroughly and sufficiently informed as to the intentions of the commander and the object of the fight. During the action itself any communication can reach the troops, especially the infantry, in exceptional cases only, namely, when for the time being they have reached some cover, where the commanders can, on the one hand, deal with the troops directly, and on the other receive orders themselves.

Under these circumstances the troops have to rely, as long as the action lasts, solely on what they knew about the object of the action and the co-operation of the various units *before* the battle began. This is overlooked too often.

To-day the mode of issuing orders in manœuvres

is such that the troops often do not get a combined operation order at all. Special instructions are often given to commanders of units alone when charged with a definite task. The connection of this individual task with the whole plan of action is very often not apparent in these instructions. That commander then issues his orders in a similar manner. In this way every one, of course, gets to know his special duty, but rarely how to co-operate with neighbouring bodies. Even if the superior authorities have issued an actual operation order, the effect is mostly the same. Only superior commanders become acquainted with it, issuing but parts of it as a rule to their subordinates. And so it happens that even brigadiers and colonels are often unable to get a clear view of the situation. Captains, to crown all, know nothing at all, as a rule, about the plan of battle, merely receiving for their companies some direction from the battalion commander, who habitually counts upon being able to send further orders to the troops during the action by his adjutant, because of real danger there is none in peace time. At the same time superior commanders are too frequently found in the foremost line, where they can survey all, and adopt suitable measures, without realizing that all this is impossible in real action.

We must break with this system altogether. A new method of issuing orders must take its place, if we do not wish command to fail on active service; for what we have practised in peace will be done habitually in war, however impracticable it may be.

In order to prevent the self-reliance of the various groups and men leading to confusion during battle, and that they may act in accordance with the intentions of Headquarters, it is imperative to adhere rigorously to a systematic issue of orders *before* entering

battle. Everybody must know so much of the general situation as is requisite for him to know within the sphere of his command, to enable him to act with self-reliance under any circumstances, even should the conditions be found to differ from what the order presumed, or change in the course of action. He only who knows the plan of the whole is able to act suitably in sudden emergencies. There will certainly be cases when there is no time to proceed systematically and when the situation calls for prompt and instantaneous action; but the conditions of modern war generally require and allow orders to be issued in detail and systematically, because the attack must begin far away from the enemy, and the reserves must as a rule be held back far in rear. Prompt action, too, as occasion may demand, which precludes us from issuing detailed and special orders, can take the most correct and suitable form only if based on the general situation previously made known. The successful attacks in future will materially depend on the first measures adopted and on the method of issuing orders. General Headquarters must, therefore, always issue a clear and comprehensive operation order distinctly showing the object of the battle, the general plan, and the co-operation of the various parts; and this order must not be communicated to the superior commanders alone; everybody must know its essential portions.

The same principles hold good for the defence, except that here all is naturally less difficult. In a deliberate defence there will surely always be time enough for regular and detailed orders to be issued; and also during the battle itself, especially when the fighting troops are lying under cover, it will often be possible for orders to reach them.

It is necessary, also, to issue to the artillery orders

which will enable and permit everybody to act with self-reliance. It is not at all enough to indicate to the various artillery brigades and batteries their positions and targets. *Far more important* is it for all to be informed on the *tactical object* of the fire. The artillery must know the task given to the infantry in the battle, and must be in a position to judge fully how it can best aid the infantry in solving its task, so that all subordinates, knowing the situation, are perfectly free to act with self-reliance at the given moment.

Acting with self-reliance in the sense and spirit of General Headquarters, and of the uniform plan of battle known to us, is the decisive factor in modern battle.

Matters are somewhat different with cavalry. If it is used dismounted, it must, of course, be systematically furnished with orders like any other troops; nay, even more so, as there is the additional care for the led horses, which the commander concerned can only station correctly if acquainted with the general situation and the plan of action. But in real mounted action detailed orders are well-nigh impossible. Everything is enacted in rapid succession, at a rapid pace, in the shortest possible time, and only by a brief order and word of command can the will of the leader produce action. Sometimes the trumpet may also help to intervene. But it is possible to issue orders here in this way, because behind the commander are his troops to-day, as formerly, *in close formation*, able to hear his voice and trained to act with regularity on the briefest call or hint.

If the individual is, therefore, tied here to the mass, all the more prominent become the initiative and self-reliance of the superior leaders. They must always

be fully acquainted with the strategic situation from which the action develops; the general and guiding plan of action must be briefly communicated to them. They must have learnt to understand from a few tersely coined words the idea and the will of the supreme commander. They must, however, not receive this will in the form of an order, but as a task, leaving them full liberty in the choice of the means for its execution. The supreme commander cannot know how the subordinate commander will find the situation, he cannot discount the enemy's counter-measures in advance, and must, therefore, leave to his subordinate all the more perfect freedom of action, as there will never be time for asking questions and giving subsequent directions during the rapid course of a cavalry action.

If independence of action in *cavalry combats* is thus generally restricted to superior commanders, and down to squadron commanders only when they are charged with a special duty, the necessity of independent action of even the smallest group becomes all the more prominent when the main duties of cavalry are involved—namely, reconnoitring, screening, and raids on the enemy's lines of communication. Reconnoitring squadrons, patrols, and other detached bodies, cannot be given stringent orders, but only tasks, which they must try to solve with self-reliance, in the spirit of a situation about which they have been informed. They will often find the situation different from what the superior was able to tell them; it will often change in the course of events. Over and over again will the individual be called upon to show judgment and determination. A strict method and the greatest self-reliance must go hand in hand here, to enable every one to respond to this call.

Reconnoitring, screening, and reporting must be arranged *systematically*; the system must be clearly expressed in the detailed instructions given to the members concerned, to enable them to understand the connection of these three duties; this system must become a second nature to all the troops, so that every one can find his way about in it. Every individual member, on the other hand, must be trained in *self-reliance* and be left to exercise it, so that when the situation changes and the enemy's action is felt every one is able to act suitably in the spirit of the whole. The cavalry soldier must, more than any other individual of the army, rely upon himself when on strategic service, and upon his own judgment as well as upon his boldness. The amount of his self-reliance is at the same time the measure of his work.

The same reciprocal effect between system and self-reliance as required by the combat and strategic service of cavalry must, under modern conditions, be also demanded from the conduct of operations and the action of the various units during the operations. All movements of masses must be carried out systematically, if maximum performances are to be attained. In arranging the marches and regulating supply it is absolutely necessary, as we have seen, to be strictly systematic, so as to prevent most serious checks in the movements of the whole army. Its mobility directly depends on this system being adhered to, and commanders of troops must fully master its laws to be able to fulfil their duties. Yet the system alone is not enough for the proper execution of the strategic movements.

Two factors appear as a disturbing element; firstly, friction, which asserts itself in all actions in war, is caused by misunderstandings, unforeseen accidents,

personal failings, and similar reasons, and will always exercise anew a paralysing influence on the mechanism; and, secondly, the intervention of the enemy. When one or the other of these disturbances in the systematic course of a military operation occurs, it is bound to have an effect all the more injurious, the greater the tension under which the whole and necessary system was working. In such a case there is only one means of keeping the entire mechanism going, namely, the self-reliant action of every link in the chain of this system, in taking care that the wants of the movement are first of all met by increased march performances of some portions and other suitable measures, and that next the disorder in the whole mechanism is again removed.

But such self-reliant action is only possible when all individual members are informed on the general situation. Here again, therefore, arises the necessity for a systematic issue of orders, which, without restricting individual action more than is necessary, must transmit enough of the knowledge on the general situation and the strategic object to enable the various portions in case of need to act with self-reliance in the proper manner. The modern means of communication and intelligence certainly facilitate in all such cases the co-operation of every part, but for all that do not replace self-reliance.

The way in which the English conducted the South African War is, in this respect, extremely instructive. Here a system of perfect centralization of command prevailed. Every strategic and tactical movement was prescribed by the central authority to the minutest detail; personal initiative was confined to the narrowest limits. When it appeared it was at once suppressed, and where initiative proved necessary it failed

nearly always. Especially when Lord Kitchener became Commander-in-Chief, centralization of command appeared in its acutest form, giving rise to altogether stereotyped measures. The result matched the action. As little as they ever succeeded in beating the Boers decisively in the first part of the campaign, as little did they succeed in suppressing the guerillas in the second part. The self-reliant initiative of a de Wet, a de la Rey, and a Botha defied all the thumb-rule measures of British General Headquarters, which positively precluded all independent action of subordinate commanders. The English must confess, and they do confess, that their army completely failed in this respect.* Complaints on the purely literal obedience and want of self-reliance and initiative of the English generals were heard from all sides. They characterize the opinion the English had of their own army. It had apparently ceased to appreciate that self-reliance is everywhere necessary corollary to any systematic action.

The larger the portions of an army with which we have to deal, the more independence must be granted to them, because General Headquarters cannot survey the details so well with large gaidies of troops as they can with smaller ones. ab

A divisional commander knows exactly where each of the units belonging to his command is at the moment; a general commanding an army corps knows exactly the area occupied by his divisions, and the positions of the supply depots apportioned to him, and, if his corps is marching by one road, the whole apparatus of his lines of communication. The commander of an army, on the other hand, is not informed on the interior arrangements made by the army corps. He

* "The *Times*' History of the War in South Africa."

only deals with army corps and the lines of communication; it is the business of the corps to arrange in detail the intercourse with the latter. The Commander-in-Chief finally deals with the area of operation and the objectives of the various armies, with the rail-heads and intercommunication in general. It is impossible for him to survey the detailed arrangements of the armies, still less of the army corps.

The larger the command of a general, the less, therefore, must he interfere with the details of the arrangements for which his subordinate commanders are responsible: for orders emanating from General Headquarters and interfering in matters of which the authority issuing the order cannot know the details, generally prove infeasible or cause, to say the least, grave inconveniences; these grow with the size of the operating masses, because with them frictions and possible misunderstandings increase.

This caused Field-Marshal Moltke to issue no further orders at all to the armies or independent army portions, but to send them only directives. The object to be attained was communicated to the army commanders, and they were given certain points of view on which they were to act. Where their spheres of action came in contact with each other, a dividing line was indicated, or one portion was placed under the command of the other. But the mode of executing their task was, as a rule, left to the subordinate commanders, and only occasionally did the Field-Marshal intervene by giving definite instructions on how to act.

The experiences gained with this system were not always satisfactory. Repeatedly it became apparent that army commanders were unable to grasp the spirit of Moltke's brief directives, because they were not

conversant with Moltke's train of thought. Collisions and strategic difficulties were the consequence. I need only mention the advance of the First and Second Armies to the Saar, and the operations against MacMahon ending at Sedan. In both cases the mode of issuing orders did not suffice to bring about regular systematic movements. Too much independence was left to the subordinate commanders; they did not enter into the spirit of Moltke's orders, and the technical difficulties of the operations ordered were neither recognized nor overcome. In future we shall be obliged to develop Moltke's system further.

Directives of a general nature, like those given at that time, would not always suffice to-day for the co-operation of several armies.* We shall often have to adopt more detailed and definite measures for guaranteeing uniform action in the enormous mechanism of modern armies and for preventing the various bodies from disturbing each other. The numbers are now greater than before in proportion to the space available. This often causes the various portions of the whole army to be in close touch with each other, thus necessitating some definite instructions to be given. Yet we must again guard against going too far in this direction. Only what is absolutely necessary must be ordered. The greatest possible independence of the various portions must always be preserved. It needs much training of the mind, great tact, and a perfect mastery of the technical elements of warfare to find the proper limits between what must be ordered

* The directives given also by General Freiherr v. Falkenhäusen in his book, "Flankenbewegungen und Massenheer," are not sufficient I think. The areas of operation of the various armies are not clearly defined it seems and the system of reconnaissance and subsistence not definitely regulated.

and what must not be ordered. The personal character of the subordinate must also be considered. To one may be left more freedom, the other we must tie by more definite orders. The psychological moment plays here a great rôle. At any rate, operations of modern armies must never be ordered which can only succeed if everything is arranged to the minutest detail by General Headquarters, and, as a matter of fact, can be so carried out. There is then still always the danger of invincible friction being produced.

When practising in peace, on the manœuvre field as well as on the map, we are always tempted to limit the independence of subordinates in the interest of our own intentions and views, many succumbing to this temptation. I have repeatedly had this experience. At war games, when dealing with strategy, General Headquarters ordered operations which could only be executed if the marches were systematically arranged in the minutest detail by General Headquarters down to the army corps and their trains. The necessary orders were dispatched in long telegrams to the various army corps. It was quite arbitrarily assumed here that the troops lived entirely on the country and were followed by regularly formed echelons of their columns and trains. The connection with the depots and railheads was not considered at all, else the whole arrangement would have been recognized as impossible in theory alone. These assumptions were unnatural; the writing and transmission of the orders were impossible as regards time. The whole procedure would have failed on active service, for the most part in the issue of orders alone. In other cases the lines-of-communication system would have broken down. And if we now imagine such a procedure taking place, let us say, in the thinly-populated fields of

Russia, we shall be able to realize all the danger of conceiving war based on arrangements of this sort. Paper can stand a lot of things, but in reality we pay for such follies with lost battles and ruined armies. The temptation to issue such orders for ensuring the co-operation of various bodies during intricate operations has often asserted itself in war, too. In South Africa, as I have mentioned before, English General Headquarters completely succumbed to it. During the so-called "drives," for instance, a similar mode was adopted. Everything was ordered by General Headquarters, to the smallest detail, even regarding supply columns and their movements. Here only small detachments were certainly involved, scattered over a wide space, and an enemy consisting as a rule of some few hundred undisciplined Boers. Yet the system failed. Because of the necessity of adhering to the system ordered, the enemy was of less concern, and the Boers remained masters of the situation.*

If, by ordering too much, we sometimes produce the opposite of order and co-operation, and therefore thoroughly fail in our object, we must never, on the other hand, out of regard to the self-reliance of subordinates, be afraid of ordering plainly and distinctly

* These "drives" were arranged in regular shooting fashion. The tract of country to be driven over for Boers lay, as a rule, between two blockhouse lines approximately parallel with each other. At one of the open ends troops were posted like sportsmen, as it were, toward whom a line of beaters drove the Boers from the other open end. During night the beaters bivouacked in small groups of about six men.

All the large detachments of the Boers of course broke through, partly on the flanks and partly through the line of beaters, and then marched wherever they liked. Only stragglers were caught, at the expense of an enormous amount of force, of money, and of Kitchener spirit.

what is really necessary. Moreover, no subordinate leader must be left in the dark as to what is to be done. But this "*what is to be done*" must always keep within the limits of what can be carried out practically without the shadow of a doubt, and must never be determined by what is merely desirable.

A study of the Russian War in Manchuria is highly instructive in this respect. There was no end of orders. Every commander encroached upon the sphere of his subordinates, often ordering details with which he had nothing to do. But the troops were never clearly and distinctly told what they *were* to do. Superior commanders hardly ever expressed their will in unambiguous terms. Everybody shirked responsibility. It was never plain whether the desirable was really to be attained by all means. A firm resolution was never apparent. By this mode of issuing orders the firm will to conquer was ultimately drowned.

Command in modern war demands the greatest amount of tact, wise self-restraint, and rigorous clearness. The problem of command is not only to move the troops and concentrate them for action; its task is the wider one of causing self-reliant action of the spiritual forces of the army and its leaders, and of producing, as if by magic, the maximum performances, and of carrying away the whole to perform the greatest deeds by concentrating all self-reliance and all mental and moral forces upon the attainment of the object indicated by the Commander-in-Chief.

It is a delusion to believe this to be possible without staking one's full personality, and yet we see a modern tendency trying to limit the very personal element in command.

In an essay of the "German Review," called "The

War of our Days," * is described in a specially striking manner—certainly more humorously than professionally—the kind of command people often prefer to call "modern" to-day: "The Commander-in-Chief is further in rear in a house with spacious writing rooms, where wire and wireless telegraphy, telephone and signalling appliances are at hand, where crowds of motor-cars and motor-cycles, ready to go any distance, are waiting for orders. Here, in a comfortable arm-chair, in front of a large table, the modern Alexander has before him the whole battlefield on a map; thence he telephones stirring words, and there he receives the reports of the army and corps commanders, of the captive balloons, and of the dirigible airships."

It is an idea much in vogue to-day, and given here, perhaps, in too extreme a form, that the Commander-in-Chief, the supreme leader, ought to be far behind the front in a central position, in rear, surrounded by all the adjuncts of modern technics; but, surely, the question instinctively rises in all of us, whether it is really imperative for the General-in-Chief to abandon, as here described, all personal influence, and to confine himself to *telephoning* from the arm-chair "stirring" words, the stirring force of which may then be fairly doubted.

It seems to me, we must not judge of matters in this one-sided and summary fashion, as was done there.

First of all, I think we must make a difference between strategic and tactical command. The operations of the army must, of course, be directed from a central office as was done by General Headquarters in 1870-71.

* *Deutsche Revue*, January, 1909, "Der Krieg der Gegenwart."

At such a place the Commander-in-Chief can dispose over all the necessary rooms maps, and all the means for issuing orders. Here will also converge all the means of communication—chiefly, therefore, telegraph lines—for keeping General Headquarters constantly informed of all that is happening, and of the course of operations, and for transmitting its orders. Efforts will be made to change quarters not too often, so as not to interrupt too much consecutive work. General Headquarters therefore follows the army only by stages. Army Headquarters manages in a similar manner so long as the operations are proceeding and the troops are marching, while, of course, Army Corps Headquarters will always remain with their troops.

But matters are altogether different the moment *tactical* command is involved. Here we shall have to distinguish between cases of a varying nature; for the manner of command must be quite different when a single army is fighting a battle, or when even several armies are fighting united on the battlefield, from what it must be in a great battle, in which the bulk of the forces of the whole army are taking part in various distant groups.

In the latter case it may sometimes be imperative, owing to the great extent of the battlefield or owing to the distances apart from each other of the various local battlefields, for the Commander-in-Chief to remain in centrally situated headquarters, though the necessity for such action will surely not always arise. But his activity in that case will be altogether different from what the anonymous author of the "German Review" depicts. The Commander-in-Chief will then, of course, only deal with his army commanders; from them alone he receives reports, to them alone will he

send his instructions. He will allow himself to interfere with the details of army commands, and to send orders to individual corps, only in exceptional and urgent cases. He will retain direct command only over reserves and sometimes over detached bodies. He will, no doubt, also abstain from sending stirring messages by telephone. All reports and news about the enemy, however, are not received by him in the first instance, but by the army commanders who control the dirigible airships, captive balloons, and other reconnoitring organs. The army commanders, on their part again, deal directly only with the corps commanders, no matter whether the former are personally present on the battlefield or not. The main task of the Commander-in-Chief is, in such a case, to draw the strategic consequences from the results of the individual tactical decisions; with these he reckons as if with given factors.

Things, however, will take a different aspect when we have to deal with the battle of a single army, or with the combined battle of several armies—with battles, therefore, like those of St. Privat and Sedan. The Commander-in-Chief will in such a case certainly make use of all the technical adjuncts as well, in order to keep in touch with the various subordinate bodies; he will establish himself in a central spot, whereto all the means of communication converge. But he is not at all obliged to look for such a central place far from the battlefield. The very perfection of the mechanical means of communication makes him independent of any field position. Nor is he personally at all tied permanently to this central spot—to the arm-chair of a modern Alexander; for has he not the mechanical means of keeping in constant communication with it? He will, therefore, not let himself be deprived of the

privilege, should he think it necessary, of intervening personally at the decisive points of the battlefield, and of inspiring the troops by his personality, as the great captains in every age have done.

Be the battlefield ever so extended, at one spot of the wide front the plot laid by the strategic and tactical conditions will thicken to a crisis. That is the point where the director of battle must be also found in future. Here his personal intervention may be of decisive importance, especially when troops of co-ordinate commanders are required to co-operate, as, for instance, was the case at St. Privat.

Two German armies were united here for battle—namely, the First and Second Armies. They encountered the enemy's position on a broad front. As soon as its extent was recognized, a glance on the map should have sufficed to reveal the fact that St. Privat was the decisive point. The French left wing was leaning direct on the strongest works of the fortress. Here the greatest possible resistance was to be expected. Even if this wing had been successfully pushed back, it would only have brought the victor under the guns of the St. Quentin and Plappeville Forts. It was, moreover, then still possible for the French to retreat north, provided their right wing held its ground. But if the Height of St. Privat was captured, the whole position of the French army became impossible, the army being hopelessly pushed into the fortress. It was, therefore, merely a question of pinning the French forces to the ground along the whole length of their front; at the most, an attempt might have been made to support the frontal attack by enveloping the French left flank through the Bois de Vaux. But at St. Privat it was necessary to defeat the enemy. Here the Guard and Twelfth Corps were

to co-operate. It was of the utmost importance to ensure their united and uniform action. But General Headquarters was not far from Gravelotte on the right wing, and Prince Frederic Charles was standing at Habonville, likewise far away from the decisive field. And so the co-operation of the two corps on the left flank was left more or less to chance, and it was merely owing to the goodwill prevailing everywhere that it was brought about at all. When the First Brigade of Guards attacked, the Forty-fifth Infantry Brigade was standing at the little wood of Auboué, intervening just in time on its own initiative when, in the moment of the crisis Lieutenant v. Esebeck, likewise on his own initiative, called its attention to the serious struggle of the Guards. The Forty-eighth and Forty-sixth Infantry Brigades were but coming up. The Forty-seventh was standing in reserve behind St. Marie-aux-Chênes, after having taken part in the assault on that village. A combined order for both army corps was altogether wanting; each acted in the way it thought best. If Army Headquarters had been on the spot here, matters would have been materially different.

Similar examples could be freely quoted from the Russo-Japanese War. If, for instance, Kuropatkin had been in person on the battlefield of Sandepu, he would have convinced himself of the advantage the situation presented, and could have altered his orders, which were paralysing the attack. But he remained in the central position, and meanwhile the battle was lost.

Whatever we may think, it is always the personal opinion, based on what we see with our own eyes, which is of decisive importance on the battlefield, because here not only comes into play the mutual rela-

tionship of time, space, and force, as in strategic operations, but also directly those imponderable factors, which, produced at the moment can only be appreciated when personally seen; it shows that he who voluntarily keeps away from the battlefield without any necessity for it, abandons at the same time the best part of what he can perform personally. The moment the Commander-in-Chief has become aware of the point where the main issue will be brought about, he must not hesitate to go there and separate himself temporarily from his centre of intelligence, with which he will, however, remain constantly in communication.

We here become aware of one of the advantages of the offensive. The Commander-in-Chief of the attacking army knows, as a rule, where he will decide the issue; he can go there in person and accordingly arrange from the outset his whole intelligence service. But the General-in-Chief of the defending army must await the development of the attack before he can judge where the decisive issue will be forced on him, or where he himself will enforce it. It is only then that he can select a suitable position for himself and arrange for his intelligence service. That is one of the disadvantages consequent on giving up the initiative. Kuropatkin could have been on the spot on the morning of the attack at Sandepu, and could have at once adopted the most comprehensive measures. Oyama could not go until the decisive importance of the Russian attack had been recognized. He was bound to have the last hand in all his counter-measures in regard to space as well as to time. But neither ought he to have allowed himself to be tied to the comfortable arm-chair of a modern Alexander.

The Commander-in-Chief's place is to-day, as for-

merly, where the issue is decided, and where he can himself survey the decisive field of battle. The possibility of regaining his central position, in case of need, within a short space of time by modern means of communication, will facilitate his resolve of going himself to the battlefield. But it is the duty of the intelligence service to bring to him there the necessary news and to transmit thence his orders. Telephone, telegraph, motor-cars, motor-cycles, and flying machines are available for that object. To simplify as much as possible the apparatus needed for this, and to relieve the Commander-in-Chief in every possible way, to limit the receipt and transmission of reports and orders as far as possible—that is the duty of the staff. But the Commander-in-Chief himself must try to keep his mind and memory free from the details of events with which only the commanders of troops are directly concerned; he must only keep in view the great and decisive factors, and leave the rest to his subordinate commanders, but he must rapidly and vigorously intervene the moment the issue hangs in the scale. To act in this way is the most difficult, but the most needful task of the spiritual systematics of generalship. The magnitude of the task grows with the magnitude of the masses engaged. On the one hand grows with it the number of reports coming in, which are only too apt to confuse the great features of the whole picture, and, on the other, the measures once adopted can only be cancelled with difficulty and under penalty when large bodies of the army are involved which are sometimes far away. The weight of responsibility and the difficulty of rightly gauging effects and consequences have, before all, become greater. Only a great and open mind is equal to this task.

CHAPTER VII
ATTACK AND DEFENCE

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REFLECTIONS so far have shown that the modern arms, through their increased effect in all directions, exercise a far-reaching influence on tactics. The modern armies of masses bring to the battlefield elements which have never before been dealt with by the science of war. Technics have furnished the art of war with means opening not only new avenues to transport and communication service, but taking in the air as a field of action as well.

Under these altered conditions, acting and reacting upon each other in so many ways, the investigating mind, trying to trace the effects due to these new phenomena, is in the end faced by the question, whether the fundamental conditions of all warfare where all military action comes into play—namely, whether the relation of attack and defence—has not altered too, on account of the many means hitherto unknown and now used in modern warfare.

This relation determines the nature of war in so many ways as to make it altogether impossible to deal with the art of war without being perfectly clear on the reciprocal effect of attack and defence. We must, therefore, not mind the trouble of closely examining their mutual action and reaction.

Clausewitz considers the defensive the stronger

form of conducting war.* I do not share this opinion. I rather think we must compare attack and defence in a twofold manner: firstly, as a *means of fighting*; and, secondly, as a *mode of action in conducting war*. As a means of fighting, the defence may be stronger, yet an offensive mode of action in conducting a war may prove still stronger. The conditions decisive for both are absolutely different, and cannot directly be compared with each other at all.

If we first of all compare defence and attack as a means of fighting, I certainly seem to have no doubt of the defence being substantially superior, and having even gained in strength by the development of modern armaments.

Glancing first at infantry action alone, we shall find that the greater efficiency of the rifle benefits the defence above all, and increases the advantages arising from the nature of things.

The defender to begin with has, at least in the majority of cases, the choice of the position in which he intends to fight. He will select it so as to have a clear field of fire, sweep all the ground in front, and remain himself under cover of the ground at the same time. This allows him to use his weapons thoroughly with the least exposure to himself. The defender always presents a small target because he fires lying down, and, if possible, from behind cover, while the assailant must traverse the whole field of attack as a target. However much the latter may strive to keep low, he must show himself always more than the defender. The defender can, moreover, shoot more in the course of an action than the assailant, who must spend part of the time in advancing; his fire will generally be more effective than that of his opponent, as

* Clausewitz, "On War," book vi., chap. i., etc.

he is able to take deliberate aim, with his rifle as a rule supported, and he is often in a position to note the ranges before the action begins; while the assailant is obliged to deliver his fire after most violent and fatiguing movements occasioned by the advance. The defender, besides, can dispose as it were of an unlimited number of cartridges. He can store them beforehand inside the cover behind which he himself is lying, and replenish them as a rule without much difficulty during the action. This advantage accrues to him from the choice of the position. The assailant, on the other hand, has generally only the ammunition which he carries on his person, the rounds of the killed and wounded being but a scanty resource. The troops can, of course, provide themselves with ample ammunition before the battle begins, but the carrying capacity of the individual man is limited, and ammunition can only be replenished during the attack by reserves bringing it into the firing line. This, too, is of no great avail, the supports coming into action themselves needing their own ammunition and being able to carry but a small surplus for distribution. They will suffer considerable loss before they reach the foremost fighting line. This shows a further advantage for the defence. The defender can, as a rule, place his supports so as to be covered at least against direct fire, and only to be exposed to serious losses at the moment they come into real action. The assailant, on the other hand, must bring up his reinforcements through the zone of fire his foremost line has already traversed, if he wishes to make use of his masses, and he must, therefore, expose them to losses before he gets the benefit of their intervention.

In all these items the defender derives very much

greater advantages from the improvements of the rifle than the attacker.

The greater the range of the arms, the sooner must the actual deployment for attack begin; the greater the space the assailant has to traverse as a target, the greater will be his physical exertions, and the less favourable for the assailant will become the proportion of the number of rounds both opposing parties can exchange. It is, besides, all the more difficult for the assailant to replenish his ammunition the deeper the field of attack which he has to cross; and the ammunition spent is, moreover, then much greater, in addition to the greater rapidity of fire. It is even doubtful whether it will be always possible, under the present conditions, to take the ammunition from the dead and wounded during the hottest fire-fight. The advantage, also, of the fire of the modern rifle being more grazing than that of the old arm—giving, therefore, aimed fire a greater chance of hitting—is more especially to the benefit of the defender, not only because he can aim with greater calmness than the attacker, who is in constant motion, but because he is, as already mentioned, also very often able to mark the ranges in his front and then fire with the correct sight, whereas the attacker must always estimate the ranges afresh while he is advancing. The greater the distances at which the action begins, the more will this advantage assert itself, because the errors in estimating the range grow with the distance, and affect the firing at distant ranges more unfavourably than at the nearer ranges. The assailant can certainly ascertain, with the ordinary range-finders, the distances at the beginning of an action, but during the advance itself they are useless. The units of the assailant which are to reinforce the foremost fighting line will also, in the face

of the present rifle, suffer more than formerly when moving into the fighting line, because the dangerous zone behind the firing line is greater than with fire from weapons having a shorter range and steeper trajectory. The defender will scarcely feel this disadvantage, because his supporting bodies, as I said before, are, as a rule, behind some kind of cover at least.

The defender has, lastly, the advantage of being able to make a far more extensive use of artificial cover than the assailant, and this advantage weighs all the more heavily the more efficient the arms, and the more, therefore, the chances of greater losses.

The side which voluntarily decides to act on the defensive, and it is not suddenly thrown on it, has the chance of more or less strongly entrenching itself in the position occupied, increasing thereby the advantages afforded by the country, and neutralizing any of its disadvantages. The attacking infantry can, on the other hand, create but quite hasty cover during its advance, this kind of cover on the ground as found giving naturally very little protection, and being of advantage under particular circumstances only.

The fact that the Japanese often entrenched in the attack has led to the propagation of views about the advantages of this procedure, which, in my opinion, go far beyond the mark.

It is at once clear that, if cover is being prepared in the foremost line during an action, and within effective fire of the enemy, the intensity of the fire of the attacker must suffer. The losses of the latter while digging will accordingly become greater, whereas those of the defender will be less. If, on the other hand, the fire of the defence is so weak as to allow the foremost fighting line to entrench without serious loss, it

is plain that it is possible to get forward without entrenching.

If in the last wars the attacking infantry has repeatedly dug itself into the ground during an action, even in close proximity to the enemy, we cannot at all conclude from this that this procedure is expedient in itself and in all situations. It rather follows that either the fire of defence was ineffective and that, in spite of this the assailant had not resolution enough to push on vigorously, or that he thought it necessary to secure first the ground gained against reverses, and to create a firm base for continuing the attack, and to fall back on in case of failure. At any rate, digging into the ground by the foremost fighting line means interrupting the attack and paralyzing the will to attack. Only under the stress of dire necessity should this be permissible. The effort, however, of securing the ground gained and creating solid pivots in case of a reverse is justifiable.

Taking these reflections into account, we come to the conclusion that the foremost line of the attack must only use the spade when, during the advance, a section of ground suitable for entrenching has been reached, and the strength is failing for any further advance, and it now becomes a question of securing, above all, the possession of the ground captured; therefore, during the transition from the attack to the defence, though a temporary defence only. But it will, on the other hand, always be of advantage for the supports—which, being in rear of the attacking line, cannot themselves fire and are beyond the enemy's most effective fire—to entrench so as to protect themselves against losses and to create pivots on which the foremost line can, in case of a reverse, establish itself when retreating. But this kind of cover will

always be of a very hasty nature only. The construction of proper artificial cover by the assailant is generally possible only if he makes use of the night, and proceeds to entrench systematically, to gain ground. But an expedient of this sort, belonging really to fortress warfare, is always an exception, and should be used only if we cannot advance at all in any other way. This procedure is generally altogether out of the question during active operations, as being far too tedious.

Taking it all in all, the benefit the attacker can derive from entrenching is very small; but the possibility of creating for himself artificial cover is a real and substantial advantage to the defender.

In opposition to this view, experienced and prominent tacticians, it is true, attribute to trench-work in the attack a very much greater importance than I can concede. I even find the view supported that broad spaces, affording no protection whatever, could be traversed by attacking infantry only with the aid of the spade, and by advancing as in fortress warfare from trench to trench, and, if necessary, under cover of night. I think this view goes decidedly too far.

In my opinion it is impossible to advance by day, as in fortress warfare, without the means we have available there. In fortress warfare nobody dreams of entrenching by day within effective hostile fire. We slowly work forward by sapping, or use the night to form a lodgment by surprise. There can, of course, be no question of sapping in active operations; but should we wish to wait for the night to traverse every extensive open space, active operations would be turned into a war of positions, and the defender would be given the chance of strengthening his position, and adopting the measures necessary for its defence in

perfect quietness. Therefore, a procedure like this can be expedient only in exceptional cases, such as fortress warfare; other means must be found for getting over open ground in the attack. I shall return to this question as I proceed. Here I am first of all concerned with proving that the possibility of creating cover in the country affords the defender far greater advantages than the assailant; and this view can hardly be contested even if a much greater importance is attached to spade-work in the offensive than is attached by me.

A further advantage accrues to the defensive by the use of machine-guns. Conditions favouring the effect of that arm will generally be found only in the defensive. The machine-guns can here be brought into positions whence they can continue to act and accurately fire at known ranges, without interfering with the fire of, or endangering, their own infantry. Sometimes they may fire from a commanding position even over their own infantry. Hostile infantry *advancing* will also often present a favourable target.

I do not deny that machine-guns can also be used with advantage under favourable conditions in the attack; but they are essentially a weapon for defence, and can generally give a full account of their value in defence only.

The relation of attack and defence being determined by the infantry firearm, this relation is somewhat altered by the artillery. By rendering, through its distant fire, the strategical and tactical initiation of the attack more difficult, the artillery no doubt benefits the defence; but the modern development of that arm has, on the other hand, disclosed also some features advantageous for the attack. All in all, I think we are justified in assuming that the artillery of to-day serves,

first of all, the idea of attack, and facilitates the offensive. This fact is, perhaps, even the most important result of the modern development of artillery.

The defender stands in a fixed position. His infantry *must* advance sufficiently forward in the country to sweep as much as possible the entire foreground, and to be able to fire effectively upon the attacking infantry. His infantry can, therefore, under any circumstances, be reached by the artillery of the attack, *even if it is standing behind cover and firing indirectly*. This gives an immense advantage to the artillery of the attack, for the conditions of the artillery of the defence are totally different. The latter faces *movable* infantry targets which it must fight.

With the means of laying the guns to-day, it is no doubt possible to fire also indirectly on movable targets, but the same effect as with direct fire from an open position cannot be obtained *for any length of time*. When using the latter kind of fire, any change in the position of the target can at once be accounted for by taking direct aim and following the target; with indirect fire it is, on the other hand, always necessary to alter the position of the contrivances for laying; it is true, this can be effected in a simple and exact manner. The fire of batteries or brigades can in that way be uniformly transferred. The artillery in covered positions has moreover the advantage of being able to deliver its aimed fire quietly, not being under direct fire itself; but then it must be supposed that the target can be observed, and that the connection—often by telephone—between the position of the guns and the observing commander who is directing the fire, is working without a hitch. Any interruption of this connection, as may easily happen in war, makes indirect fire altogether impossible.

Efforts are therefore made by the defending artillery to establish the observing stations as much as possible securely behind the batteries or aside of them. In a ranged battle, however, this will rarely be feasible. As a rule, the observing stations will be rather in advance of the artillery positions, at points in the country affording a good view over the field of action. They will, therefore, be often immediately within the area commanded by the hottest fire of the enemy, which will easily cause derangements in the communications, or loss among the observing personnel.

To this must be added yet another disadvantage of the indirect fire of the defensive artillery; only in the rarest cases will it be possible for this fire to fight the attacking infantry to the very last stages of the attack. Just when that infantry has come up close to the position and the situation begins to be critical, the indirect fire will, as a rule, fail. It will depend on the configurations of the ground how long it can be continued. Gun batteries have in this respect less favourable chances than the howitzer batteries. Owing to the greater flatness of the trajectories of the guns, the artillery position must sometimes be selected far in rear of the cover and of their own infantry position, so as to prevent the non-swept ground in front of the latter from extending too far. Owing to the steeper trajectory of the howitzer batteries, they can move up closer to the cover to obtain the same results, and therefore make use also of steeper slopes. But in both cases the support by artillery fire will be missed by the defender's infantry just at the most decisive moments, if the defensive artillery remains in its covered position. If, therefore, a thoroughly effective artillery fire is to be obtained against the enemy's attacking infantry up to the very last stages of the at-

tack, the defender *must advance* his guns *far enough* to take the attacking infantry under *direct fire*; he is therefore obliged to make his artillery more or less visible. This has been proved necessary over and over again in the battles of the Russo-Japanese War. The batteries had repeatedly to leave their cover to have any effect at all. The artillery of the attack is thus in a position of directing an observed, and therefore effective, fire on the batteries of the defence when unlimbering in the open, without having to show itself, while the defending batteries can only fight their invisible adversary with sweeping and searching fire.

The attacking artillery, firing indirect, has besides *this* advantage over the defending artillery, that its observing stations are beyond the zone of infantry fire, and, if they are not discovered by the defender, are also beyond the zone of artillery fire, and therefore, as a rule, less exposed than those of the defender.

The fact that the attacking artillery cannot be directly fired upon by the defender, unless the ground is altogether unfavourable for the former, is of special importance, and means a *material tactical advantage for the assailant*, since his artillery is the most dangerous enemy of the defending infantry. If the attacking infantry is not very superior, and is unable to make an enveloping attack, it will scarcely ever succeed in fighting down the defender's infantry. Its attacks over open ground will fail as a rule. The artillery must pave the way and render the attacking infantry's road to victory easier. It must keep down the fire of the defending infantry, and thus give its own infantry the chance of crossing, also, stretches of open ground. If the assailant has also heavy field howitzers, their fire will very soon produce a crushing effect on the visible portions of the defensive artillery,

make the infantry pivots of the defender untenable, and render it also extremely difficult for him to maintain the shelter-trenches and any localities he may have occupied. The artillery of the attack, on the other hand, standing under cover, can only be fought by the defender, as I said before, with sweeping and searching fire—a fire therefore not very effective—nor will his heavy howitzers often be capable of doing material damage to the assailant.

In opposition to this view, many hold that the attacking artillery, if it wishes to support its own infantry effectively, must accompany it, during its advance, with some portions at least, and this for moral reasons alone—because the infantry should feel certain it is being supported by its artillery; the latter, of course, would then lose the advantage of being able to fire from covered positions.

This opinion is seemingly a little out of date. It is a matter of course for the artillery of the attack to advance to within the most effective ranges of the enemy, and if it does not find any covered positions there, it must sometimes unlimber in the open. But in no case is it necessary for the artillery to approach closer. On the contrary, it will always be more advantageous for the batteries, after having found the range, to continue their effective fire without a break, than to cease fire with the object of approaching the enemy closer. It is just in the decisive phase of the attack that the artillery must not for a single moment stop or slacken its fire. It is, I believe, wrong to think that a moral impression is made upon the infantry by the direct accompaniment of artillery. The foremost fighting line, which is concerned here most, cannot notice at all whether the artillery is coming forward during the combat, as the artillery is any-

how obliged to remain always far in the rear of it. The best moral support for the attacking infantry is when it sees shrapnel and common shells bursting without a break over and within the enemy's line, enveloping it in smoke. But a disagreeable and discouraging effect is sure to be produced, if, just at the critical moment, the artillery fire ceases or grows weaker, on account of the batteries changing positions, for the artillery is there to shoot and not to drive during the attack. At the beginning of the action the artillery must no doubt move up close to the enemy; during the action it will generally do well to remain in position. That special circumstances may lead to this principle being departed from, and to batteries pushing even right into the infantry fire, is of course possible; but it will generally be advisable, for the sake of effect, not to accompany the attacking infantry immediately, but to leave to the artillery the advantage of firing uninterruptedly from the covered positions.

The artillery of the attack should, from the outset, recognize that its task is to combat the enemy's infantry, and only fire on hostile artillery when either the effect of the latter becomes particularly dangerous to the attacking artillery, or to portions of the attacking infantry, or when the defending artillery shows itself in open positions. The artillery of the defence, on the other hand, will, as a matter of principle, likewise do well not to enter into a combat with the invisible artillery of the attack, as promising so little success. Of course, its main interest is to fight down the hostile batteries, but it has little chance to do so successfully. It will therefore generally be content with commanding, first of all, the roads by which the enemy is approaching, and then fighting as long as possible the attacking infantry from covered positions. It will

deal with hostile artillery only if there is some chance of doing so successfully, or if there is an absolute need for it. If the artillery of the defence is obliged to show itself in the course of the action, the shields will give it some protection against hostile artillery; but if it is opposed to heavy howitzers, it must try to escape their effect by frequent change of position. This will be no easy task.

Matters would be different, I think, if from balloons we succeeded in reconnoitring the position of the batteries behind cover, and in observing and correcting the fire directed against them. The South African War has proved that this is possible from a balloon; but that it should be feasible to observe continually the fire of all the batteries in action on a modern battlefield in this manner, and to keep the observations so distinct from each other that the necessary corrections can be effected in accordance with the observations made by the balloons, is highly improbable on account of the mass of bursting shells, and on account of the danger the balloons are exposed to from the enemy's balloons and also from his artillery fire. A spasmodic and disconnected observation from balloons, on the other hand, cannot be looked upon as a decisive factor at all. From all this I believe that we cannot attribute any special importance to the artillery duel in a modern battle, and that therefore the fact cannot be denied that the artillery of to-day serves first of all the idea of attack, while the defender will only derive full advantage of his batteries if he knows how to assume the offensive.

If in attack we are superior in artillery, the infantry superiority need not be so great as otherwise, and inversely. But it will never be possible to determine theoretically what the best proportion of the arms to

each other should be. We can never be too strong in attack. This holds good for infantry as well as for artillery.

The advantages of the defence culminate in the possibility of making full use of the ground, and in the more effective delivery of infantry fire over a field carefully selected, and from behind cover. The advantages of the attack, on the other hand, originate essentially from the "proud privilege of the initiative," from its operative mobility, and from the moral factors brought into play by it. It is but rarely that battles are fought purely frontally; it is but rarely that the assailant will allow the defender to make use of all the advantages afforded him by the defensive form of combat; and it is but rarely that the moral forces will balance each other. We therefore must compare attack and defence not only as a form of fighting, but we must also consider both as a mode of conducting war in their reciprocal effect, before we can form a final judgment on their true value in war.

The assailant, as a rule, has a free choice in the selection of the direction of his attack. The defender, generally not knowing this direction, must prepare to meet, if not all, at least the most likely enterprises of the enemy. He cannot distribute his forces in the best way to suit a definite case. He is always rather in a certain sense obliged to occupy a position of readiness; and not before the direction of attack is discerned, and he has ascertained how best to meet it, can he put his troops in motion accordingly. The assailant has, therefore, a double advantage. Firstly, he can prepare his enterprise with a distinct end in view, and employ his whole force in compliance with a uniform plan; and, secondly, he can, as regards time, space, and tactics, make use of the time the

defender needs for reconnoitring, making up his mind, and initiating his counter-measures. He thus gains a start not easily retrieved. But with the choice of the direction of attack, the further advantage is connected of being able to concentrate and use effectively a great numerical superiority in the decisive direction before the enemy can arrange his defence in sufficient strength. We can further conduct the attack so as to prevent the special advantages of the defence from asserting themselves. By enveloping a flank of the enemy, by threatening his line of retreat, or by attacking him in flank (though we thereby give up temporarily our own lines of communication), we force him to fight outside the country he had selected for his battlefield, and sometimes to execute a change of front under the pressure of a decisive attack. Sudden attack and surprise, choice of the direction of attack, with all the advantages accruing from it, gaining space and time, threatening the hostile lines of communication—these have ever been the advantages of the offensive mode of action.

In contrast with this, the defender has, apart from the effects of arms, certainly in general all the advantages of ground in his favour. For meeting an attack once recognized as such, he has, moreover, to traverse, inside a tactical or strategical defensive position, shorter distances than the assailant who intends to envelop or take him in flank; yet both advantages are only *conditional*; their worth is extremely fluctuating. The advantage of ground can only fully assert itself if the assailant is obliged to come in the direction locally most favourable for the defence, and attacks the front chosen by the defender; the advantage of the shorter roads only if the direction of the enemy's attack has been discerned in time. We cannot,

therefore, count these two advantages as safe factors, and, indeed, so little can we do so, as the chief advantage of the attack is based on the very fact that the defender, as proved by experience, when opposed by an energetic and clear-sighted assailant, is too late, as a rule, with his counter-measures, in spite of the shorter roads, and unable to make always full use of the advantages of the ground.

Now, the advantages accruing to the attack from all these conditions are increased and enhanced by the enormous moral superiority due to the attack. Clausewitz is not inclined to concede this to the attack from the very beginning. But this probably is for the most part due to his dealing with a defence throughout conducted offensively. But if we merely consider the offensive and defensive as a mode of action, which I think is the only proper way to do, we surely arrive at a different result.

There is in the attack itself a force that carries away everything, and puts in motion from the outset every mental faculty and moral power, and, by directing them all to one single object, incites them to the highest exertions. The defender, on the contrary, remains at first engaged in the calmer occupation of watching and waiting, in the enervating uncertainty of what the enemy is going to do, and whether it will be recognized in time. But when he is ultimately obliged to act, he does so generally under the pressure of the full knowledge of facing superior power, resolution, and energy, and an enemy who has already gained a start over him in space and time, the importance of which it is difficult to estimate. The pure defence is of a passive nature; it will often be productive of the greatest endurance, of the most heroic devotion, but it is wanting in the positive object which

turns resolution into action, and raises the will to its highest pitch. It is only when engaged in positive action with a definite object that the highest performances are developed, and so firmly is this fact established that the defence itself is obliged to assume the offensive if it wishes to assert itself permanently and gain positive results.

There is *one* quality above all in man which is of the utmost importance in all warfare, and really benefits the attack exclusively—boldness.

Fortune smiles upon bold commanders before all others. They are the men who have filled the pages of the world's history with their proud achievements, and gave the laws to their time. They seem to enthrall fortune by a powerful charm, and only succumb where with insolent conceit they try to trespass the limits of the possible. That this is so lies in the nature of things.

Of all psychical qualities boldness harmonizes most with the nature of war—that is, striving to attain the utmost. Its superiority is due to the fact that boldness is one of the qualities rarest found in men, that an extraordinary strength of will and character is needed to keep it active under the pressure of responsibility and danger unavoidable in war, especially for the commander. The effects of superior boldness come, therefore, always as a surprise. They find the adversary unprepared, and thereby not only establish a moral superiority, which soon will exercise a paralysing influence on every portion of the hostile army, but which will, moreover, turn into a gain of time and space that is of inestimable value in war; for in every single case the time necessary for the counter-measures of the party surprised and the demoralization it suffers benefit the bold assailant, which he can

take advantage of both in space and in tactics. It scarcely needs pointing out that a bold conduct of war cannot be always absolutely sure of success. But failure is then not due to the nature of boldness, but to other factors. It may be through a totally wrong appreciation of the whole situation, which led to enterprises impossible in themselves, or through accidental and other effects which equalized or excelled the superiority established by boldness.

If now, by reason of these reflections of a general nature, we fix our glance in particular upon the conditions of modern war, it is seen that there are elements in them showing that *the superiority of offensive warfare under modern conditions is greater than formerly*.

Above all, it is the size of the mid-European armies of to-day which gives a decided advantage to him who is conducting war offensively, an advantage which asserts itself in tactics as well as in strategy.

The greater the masses concerned, and the broader the front on which they must therefore deploy for bringing their weapons into effect, the longer time will, naturally, all the intended concentrations and changes of front take, because the distances to be covered grow with the size and spatial extension of the troops; the more difficult it is, accordingly, to bring all the troops at the same time into action. This difficulty is enhanced by the fact that with the growing masses the march technics and supply arrangements become more intricate, and on their part limit the freedom of movement.

All these circumstances benefit the offensive mode of action, because the advantages of space and time originating from the initiative grow in the same ratio as the difficulties of moving masses. If the assailant

has once succeeded in concentrating a superior mass against a portion of the enemy's defensive position, the counter-measures of the defender will take all the longer time, the greater the mass which he must move, the broader the front on which it has been distributed, and the more the assailant has succeeded in taking him by surprise.

Even the simple operation of shifting reserves behind the defensive front becomes more difficult the more extended the front; the danger of their being too late grows with the distances. The difficulty of carrying out unforeseen movements of masses will be incalculable, when it is not only a question of shifting reserves, but of a more or less decided change of front, as might be enforced by the assailant through an enveloping or a flank attack. The Battle of Mukden is somewhat of a guide for judging about shifting troops in this way. Here a new front had to be opposed to the wide enveloping attack of Nogi's army, which necessitated a partial deployment towards the flank. Comparatively few troops only were, however, involved in this movement. But should it once become a question of changing front with a modern army in the same way as the Austrians had to do at Leuthen, a movement like this would last for days, and the assailant would have the chance of beating the hostile troops arriving in succession one after the other with superior numbers. ". . . An army of 100,000 taken in flank can be beaten by 30,000 men," says Frederic the Great.

And so indeed *with the growing masses the chances of an offensive mode of conducting war grow at an increased ratio.*

But a further advantage accruing to the assailant from the present conditions consists in his being able, in a deliberate attack at least, to employ his best troops

in the decisive direction, while the defender, not knowing the main direction of attack, must oppose him with the forces immediately available at the front attacked. Owing to the great difference in value of the troops of a modern army, this advantage may sometimes be of decisive importance. If we bear in mind what good and reliable troops have achieved at all times against less disciplined troops, it is easily conceived how important a proper choice of troops is when a decisive action is involved.

I think I have now considered the relation of attack and defence from every point of view, and do not see what other point could be adduced one way or the other. I can therefore summarize the result of these reflections to this end: that *the defence as a form of fighting is stronger than the attack*, but that in the *conduct of war as a whole the offensive mode of action is by far superior to the defensive mode*, especially under modern conditions. "It is always better to act offensively, even if we are inferior in numbers. The enemy is often bewildered by boldness, and allows advantages to be snatched from him," writes Frederic the Great to Louis XV., and it is surely somewhat conclusive if we are one with him in military questions.

The dictum on the superiority of the offensive is of fundamental importance. It rules the whole domain of the art of war; it must determine all action in war and for war, to-day more than ever. But this principle, if we wish to count upon military successes, must go hand in hand with the knowledge that the attack, tactically, is infinitely more difficult under modern conditions than at any time before; that the assailant, where he intends to enforce the decision, needs a very considerable superiority, and that it is the duty of strategy to insure him this superiority.

CHAPTER VIII

THE OBJECT AND THE CONDUCT OF WAR

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THE probability of the Germans having to fight by sea and by land against greatly superior numbers is obviously near at hand. Their political development requires this combat as a biological necessity. It is, then, positively breaking the backbone of self-reliance, resolution, and will to conquer of the nation if a theory of war is preached which presents numerical superiority and the material means of warfare—masses, arms, and war-machines—as the decisive factors, and more or less switches off the spiritual and moral elements of victory. To spread such a doctrine is all the more noxious and pernicious, because it is actually a wrong doctrine, looks for the cardinal points of preparation for war at the wrong place, and is calculated to force policy into paths of renunciation by grossly overrating the importance of numerical superiority, and thereby the danger of a war with a numerically stronger enemy.

Just on account of the situation in which Germany finds herself is it of the utmost importance that *correct* views should be spread not only in the army, but also among the people themselves, and that the conviction should be kept alive that to-day as well as at King Frederic's time 100,000 men can be beaten by 30,000 if resolutely and boldly led, and animated by the true spirit of a soldier.

For it is the spirit which decides in war to-day as well as in former times; it is the spirit of command and the spirit of the troops. Resolution and boldness have the same ascendancy as of yore; the proud privilege of initiative is valid as of yore; victory, as of yore, is not tied to a definite system, but may be gained in a variety of forms even against substantial numerical superiorities.

Having dealt in detail with the means available for the conduct of war, there is no question, therefore, when discussing the conduct of war itself, of establishing special systems and rules for the employment of troops; but, rather, of shedding full light on the factors on which victory depends, so that the commander, while correctly appreciating all effects and reciprocal relations, can act with perfect freedom of mind.

Politics have a determining influence on the conduct of war, which is justified within certain limits. These limits must be discerned. The broad outlines of action and the nature of generalship have to be considered. The utilization of time and space is of far-reaching importance; momentous reciprocal effects exist between them which must be elucidated. The tactical and strategic importance of reserves and the importance of the operative element in war must be minutely weighed. The distribution, grouping, and movement of the forces for action may be of decisive importance. The principles, therefore, have to be discussed which must be decisive for command in war. Success or failure, lastly, create situations necessitating action under ever-varying circumstances. But all these conditions on which the conduct of war depend are subject to the superior influence of spiritual and moral forces, and gain their true importance only by

the spiritual and moral atmosphere from which they spring. The ultimate and supreme factors of success must be looked for in the psychical qualities of individual actors and of the peoples; and beyond the consequences of victory and defeat, moral strength and moral greatness retain an importance which determines historical development in the last and supreme instance.

War develops directly from the political conflicts of States; this may be caused by questions of power, national antagonism, colonial efforts, or commercial competition. The cause of the war is always of political nature, and often exercises a decisive influence on the mode of conducting the war. It is, therefore, impossible to appreciate correctly the nature of war in all its relations and effects if we view it outside the political reasons which brought it about—as a thing by itself, as it were. War between civilized States is nothing else but a means of policy for attaining its intentions, or, as Clausewitz says, “a continuation of policy by other means,” and it is this fact which in reality limits above all its nature to achieve the utmost, and contributes a great deal to the variety of its character.

Owing to the heavy material and personal sacrifices involved in a modern war, with its levy of the whole people, wars between civilized States for frivolous political purposes will probably in future be avoided. The mere threat of going to war is alone sufficient to exercise an exceedingly injurious influence upon commercial and financial affairs, thus entailing heavy loss of money. Yet even to-day it need not always be a question of vital importance to make war possible. Antagonistic political efforts comprising important interests may often suffice to give cause for an appeal

to arms. For France, the preservation of her colonial empire is not a vital question, as she has not population enough to colonize; and yet she would, no doubt, defend her colonies by force of arms. With the numerous conflicting relations existing between the various States, it might also happen that a seemingly indifferent political purpose may give cause for a military collision if that purpose was merely the pretext or the fortuitous form of expression, below which are hidden deep-seated antagonistic interests. That is the reason why it is not always the ostensible political purpose which settles the character of the war, but the conflict of great national interests brought to the full knowledge of the people by the war. When Napoleon III began the war in 1870, they were dynastic interests which he pursued. But the war at once grew beyond this narrow limit, and became a powerful struggle of two nations for supremacy in Europe.

The purposes pursued by policy do not always coincide with real interests of the State. They are settled by men who are subject to the fate of all mankind—of judging with a narrow mind and limited views, whose mode of thinking is often devoid of greatness, and whose character frequently lacks firmness—men who are often influenced by exclusive interests, deficient public spirit, and personal ambition. Nations may also be deceived in their views, may strive after wrong objects, and misunderstand their true missions. And so it may happen that even in our days wars may arise which are not at all caused by important interests of the State. But they will then always bear a character different from those which do not spring from arbitrariness, but from political necessity.

This is the first and often decisive influence of pol-

icy on the conduct of war, because *the general character of the war is determined by the political conditions* from which the conflict arose. The magnitude and the nature of the interests at stake exercise an automatic influence on the intensity of the fight and the forces employed.

In the case of Russia and Japan, neither of the two States had the intention of subjugating the other. But the Japanese fought for their position in the world, for their recognition as a civilized State, for their supremacy in Eastern Asia. Their whole political, national, and public future depended on the success of their arms. Hence the enthusiastic participation of the whole nation in the heroic struggle; hence the self-sacrificing spirit of staking the full strength of the nation.

Russia, on the other hand, fought for a limited political object—the supremacy in Eastern Asia, and free access to the ocean. To the bulk of her people these ideas were altogether foreign. Not for a single moment did the war become a national war; not for a single moment was it conducted with the united forces of Russia—nay, it unchained in Russia herself, and even in the army, forces hostile to the State, which meant to use the war for purposes of home politics, and ultimately brought about a revolution. The tension in the conduct of war was accordingly slight. Nowhere was the feeling apparent that it was absolutely necessary to conquer in this struggle. This could be most distinctly seen in all military action, and by the character of the whole war. On the Russian side it never, in its totality, became heroic. The spirit of the army was not nourished by the spirit of the nation for whose interest the army was fighting.

A further influence of policy on the conduct of war

is established by the fact *that policy must choose the moment for the State to take up arms*. Policy must then, of course, not only consider the purely political conditions, but must also have regard to the military—*i.e.*, the state of its own as well as of the hostile army, and the military forces of the likely allies of both sides. In this sense the military affairs exercise also a legitimate influence on policy. For all that, it is the statesman, and not the soldier, who decides on peace or war, thus settling at the same time the general situation in which the war must be fought out. The commander who actually conducts the war must accept the situation as it is; he has no choice left whether a Frederic the Great places him before a great task at the most opportune hour, or whether a Frederic William III forces him to fight under the most fatal circumstances. The happy choice of the moment for beginning the war may be decisive for the whole course of it.

But with all this the influence of policy on the conduct of war is not yet exhausted.

If war is resolved upon, the military object takes the place of the political purpose; this object is determined by the amount and the kind of military success considered necessary for the attainment of the political purpose—that is to say, therefore, for breaking the will of the opponent sufficiently as no longer to resist our political intentions. The “military object” may be imagined and termed, as it were, the equivalent of the “political purpose.”

This object cannot always be fixed from purely military points of view, since we must continually bear in mind the reaction of the military action on the political affairs. Political considerations may become decisive even for the choice of the direction of the

offensive, as we shall explain in detail afterwards, and the political situation is often directly decisive for the amount of the military efforts and the determination of the military object equivalent to them.

In theory it is no doubt best from a purely military point of view to fix this military end as high as possible—that is to say, therefore, to keep the perfect submission of the hostile State always in view. Only an opponent completely disarmed is under all circumstances obliged to submit to our will. If, on the other hand, he is but weakened to a certain extent, we can never be sure of attaining this object. But this utmost cannot always be upheld in the world we really live in.

In many cases it is altogether impossible to break the enemy's power of resistance completely. A perfect subjugation of Russia, for instance, would be impossible for any European State simply owing to spatial conditions, and if England or Japan would become involved in a war with the United States of North America they could surely not think of absolutely disarming that opponent. On the other hand, the political purpose often does not even make it desirable actually to destroy the hostile power. When Frederic the Great attacked Austria in 1740, he never thought of completely overthrowing that State, because in that case the French would have become masters of Germany, which was not at all in the interest of Prussia. He only wished to injure Austria sufficiently to cede Silesia to him so as to prevent further calamities, otherwise he wished to uphold her as a great power in the interest of Germany.

Lastly, there are political purposes totally out of reasonable proportion to the intention of completely crushing the enemy's military power; or the relations

of the neighbouring States to the State assailed may make it seem too dangerous to vanquish him entirely. The fear of challenging new and perhaps superior opponents will often cause us to fix the military object within certain bounds.

Yet we must, on the other hand, bear in mind that military success also reacts on policy. Great decisive successes spread a salutary fear. The rapid and decisive victories gained by Prussia in Bohemia in 1866 may be said above all to have caused Napoleon to abandon his intervention in favour of Austria, and in 1870-71 it was probably the magnitude of the German victories that prevented our numerous enemies from drawing the sword in favour of France.

From all these reflections we must logically conclude that it is imperative *to fix the military object always as high as the armaments and the general political situation possibly admit.*

In the actual conduct of the war the foremost and most essential demand that must be made on the genius of command is, *to estimate correctly the character of the war and the nature of the enemy; to discern where the centre of gravity of the hostile resistance will be found*, and to adopt its own measures accordingly. It is only if the commander judges and acts correctly concerning these things that he can do full justice to his task.

This demand is evidently exceedingly difficult to fulfil, else command would not have so often fallen short of it. There are generally, and especially at the beginning of a war, only a few palpable facts by which we can form an opinion; as a rule, it is a question of imponderabilities that must be gauged. For this is wanted a kind of scenting spiritually what the senses often are totally unable to grasp. The

one-sidedness and narrowness of human judgment, which is but rarely able to view things objectively, misguide us, too, in this. Only a great and open mind, at the same time refined by professional knowledge, will nearly always hit upon the right thing. Who, knowing the history of mankind, would like to deny that most men, called upon to form such a judgment, are incompetent to satisfy this ideal demand? We only see too often that judgment and action do not meet the situation nor do full justice to the true magnitude of the task. On the other hand, it cannot often be proved that vigorous action has shot beyond the mark, and caused any harm thereby. A surplus of military performance will scarcely ever be injurious.

That commander will, therefore, always have the best chances who, in the military action itself, brushes completely aside all points of view that might exercise a paralysing effect, and who tries always and under any circumstances, with the utmost energy, to gain what is at all possible to gain under the conditions as given after correctly appreciating the enemy—of course, not in every part of the theatre of war, but in the conduct of the war as a whole. This point being already decisive when fixing the object of the war, it is twice as important for the military action itself which is to attain this object. He who acts in this spirit does not, at any rate, run the risk of achieving less than the situation demands, and obtains, in any case, that moral superiority over a less energetic opponent which is seen by the actual results. He who, without heeding any subordinate motives, always strives for the utmost with a vigour that harmonizes with that utmost, has an advantage by itself over every opponent who finds or believes himself to be restricted by all kinds of minor intentions, and by

theoretical, political, or even personal scruples. Only too often—and this is inherent in human nature—have commanders looked for pretexts and fictitious reasons to spare them the resolve to do the utmost. This weakness gives an advantage to the more resolute opponent.

With reference to this we need only consider Kuropatkin's mode of action in the Russo-Japanese war. His plan was to gain gradually, by retreating, numerical superiority over the enemy, at first thought to be stronger, and then to assume the offensive for the final issue. The very plan was faint-hearted, and was absolutely contrary to the endeavour of performing the maximum possible. In carrying it out, the will to conquer was entirely lost. Even after he had a very substantial numerical superiority at his disposal, of which he was perfectly aware, this commander was unable to make up his mind to risk all and strive for a really great success with his united forces. But his opponent resolutely took advantage of this weakness, and only thereby was able to command victory.

How differently from the Russian commander does true genius act! Genius always tries the most decisive issue, because it knows that the greater the victory, the surer all minor intentions are achieved and all scruples disarmed; because it feels that it is boldness which is most apt to perplex and paralyse the enemy, creating thereby not only favourable conditions for success, but in case of failure also affording a certain, and as a rule sufficient, security for retreat.

When Moltke undertook to fight the Battle of St. Privat with front reversed,* he was well aware of acting with extreme boldness and of taking into the

* *I.e.*, with a front formed *toward* his original line of advance after having marched round Metz.

bargain a great risk. If the attack failed, retreat was likely to become very difficult owing to the direction of the lines of communication with respect to the front, especially if the French pushed vigorously from Metz on both banks of the Moselle. But the Field-Marshal also knew that in case of success victory would be all the more momentous; he knew that the boldness of his mode of action alone gave him a tremendous moral (and thus the most effective) preponderance, and he was allowed to presume that the French, as he had learned to know them, could surely not be expected to show the utmost energy and boldness even should they succeed in victoriously maintaining their ground. And, indeed, his calculation proved correct, for the enemy's resolutions were most of all affected by the *moral* superiority of the Germans. Even before the very beginning of the battle, Bazaine had thought of retreat, and the very half-heartedness and uncertainty of his resolution made him lose the battle, because this irresolution prevented him from engaging all his forces for the decisive issue, and infected all his subordinate commanders. On August 16, too, at Mars-la-Tour, he lost the battle chiefly from want of resolution.

To strive always for the highest possible success with the utmost energy is the first principle of all warfare, and that commander will never acquire highest fame who falls short of this demand. The fate, not only of battles, but of whole wars and States, often depends on the commander's energy, that looks upon every success but as an incitement to further deeds, and upon every failure as an inducement to wipe it out at once by other successes.

The demand of striving always after the utmost possible success being thus one of the fundamental

ideas of the art of war, it is, nevertheless, impossible to determine theoretically what in each case must be fixed as the utmost of success. This must always be gauged in each case as it occurs, falls within the compass of each individual's reasoning, and thus incurs the penalty to which all human thought and deed is subject—the chance of erring. We seem to turn here in a vicious circle, since in the last instance personal opinion must, after all, again decide. It seems the same regarding the forms and the other rules for action, and it begins to look as if the phrase “to strive after the utmost with the utmost energy” sets up a demand indeed, but does not put us at all in the way of solving the problem.

Yet that is not so. Definite rules for the conduct of war can certainly never be given. A theory of the conduct of war as an infallible guide for action is impossible. The doctrine must confine itself to considering the implements of war and forms of operation in their reciprocal effects, weighing the merits and demerits of the different procedures, and thus furnishing the commander with the material on which to form his judgment. But from these theoretical and critical reflections the guiding lines for action develop spontaneously.

If we are requested always to fix our eye on the maximum success attainable, that means nothing else but that from all possible solutions of a military problem we must, as a matter of principle, select that which promises the maximum success; arbitrariness of judgment is thereby confined to narrow limits, and the will is necessarily directed upon the utmost. If we are, at the same time, requested to subordinate all our action to the law of developing the highest possible force and the strongest possible tension of energy,

the conduct of war will receive its peculiar stamp from that.

There is even more in the demand, apparently so simple, of always striving after the highest possible success.

Attack alone achieves positive results; mere defence always supplies but negative results. The maximum possible success is by itself, therefore, attainable only through the offensive, and the results of the offensive are increased by boldness.

In this way, from the injunction to strive always after the greatest success, results the further *fundamental* demand of *acting always offensively, if the conditions in any way admit of this; where we are obliged to act on the defensive, to conduct it always with the reservation of acting offensively afterwards and never to be urged into a passive defence except under direst necessity.*

There may certainly be cases where a purely passive defence is imperative, and where the gain of time is the maximum possible success. Inferior strength combined with special advantages of ground, state and character of the forces, and also the political situation, may force us into a passive defence. But we must then be perfectly aware that we are submitting to the will of the enemy, and abandoning all chance of finishing the combat according to our own free will. That remains always a disadvantage.

Every military situation must therefore be examined as a matter of principle, whether it cannot be solved offensively, and not till every avenue to an offensive mode of action seems blocked must we resolve upon the defensive. If General von der Tann had been conscious of this guiding principle of all warfare, when the French advanced on Orléans, he would have

stuck to his original and ingenious plan of evacuating the town and throwing himself from the north upon the flank of the hostile army then approaching, instead of opposing it on the defensive. He would then, in all probability, have gained a splendid victory at Coulmiers, instead of suffering a defeat.

Offensive warfare must, of course, not be imagined to be an uninterrupted and continuous offensive procedure of every single portion of the whole force under any circumstances. It will certainly be often imperative—especially when greatly superior in numbers—to proceed offensively along the whole line where we are in touch with the enemy. But just as often will it be a question of combining an offensive with a defensive procedure, and what is demanded here is merely that the ultimate carrying through of a general offensive should be the ruling idea.

All action in war is, however, governed by the antagonism of attack and defence and their reciprocal effect. Where the attack encounters the defence, their antagonism becomes manifest; but where the same party makes use partly of the offensive and partly of the defensive modes of action, their reciprocal effects assert themselves. These latter, as has been pointed out already, are due to the fact that the defence in front is tactically stronger than the attack. We can therefore spare forces where, in combination with the ground, we act on the defensive, and use them elsewhere for strengthening the offensive. It is only a question of determining the proportion of the offensive and defensive groups to each other in a way to prevent us being beaten in the defensive before our own attack has brought about a victorious issue.

It is consequently *of the utmost importance to estimate properly the offensive and defensive power of the*

hostile and of our own troops, and to apportion the forces accordingly.

This grouping must never be only based on numerical conditions, nor be done in a purely mechanical way; it must rather be done with due regard to the vital strength of the troops, their peculiar aptitude for the task to be solved, the nature of the different theatres of war, the likely existence of fortresses, and other circumstances facilitating or aggravating attack and defence. Every modern army is composed of troops differing in military value; not to all can be given the same tasks. Even the performances of the same troops will often greatly differ under different circumstances. Imponderable factors frequently raise or lower their military value. Previous victories or defeats, confidence in the commander, and similar causes, exercise a far-reaching influence. Where configuration and cultivation of ground favour the defence, and where fortresses afford secure points, we can, as a rule, do with troops fewer in number and of lesser worth than where open ground, affording little cover, makes us expect severe losses, and hence requires greater contempt of death and determination. The relation of the arms to each other must also be considered. The troops apportioned for defence must be amply supplied with machine-guns; for attack the best infantry and the bulk of the heavy artillery of the field army should be combined. Where the conditions are favourable for cavalry action, the mass of that arm will be employed. It is certainly highly important not to break up the customary tactical formations and place the troops under the command of leaders unknown to them, and in whom they cannot have confidence. But we must never be fettered by the organization as we find it in such a narrow way as not to venture on

this account arranging for what is the most practical. Especially the auxiliary arms of different units we may often have occasion to unite for carrying out particular duties. An important factor for distributing the forces is, moreover, time. This became already apparent when we discussed the inner line, but is equally important for every action in war where it is necessary to combine attack and defence. In that case it will, as a rule, not depend so much on the defending troops holding out altogether as long as possible, like, perhaps, the garrison of a fortress, but on offering resistance in general, and delaying the issue long enough for the attacking troops to be on their part victorious in the decisive direction. The defending troops may often, at least in strategic defence, also retire within certain limits without thereby jeopardizing the success of the whole operation—in short, they must in a given space fight to gain time. To this must be paid due regard also in the distribution of the forces. Attacking and defending troops must be able to act in harmony with each other, and work into each other's hands. Lastly, the choice of the superior commanders, and especially of those who are to hold an independent command, is of most decisive importance. To Hannibal as well as to Fabius Cunctator must be apportioned the task that would suit each.

To distribute harmoniously the forces in this sense is in every single case, in strategy as well as in tactics, the first practical duty of the Commander-in-Chief. The way in which he carries out this duty forms the basis of the further course of events.

He who employs too many troops on the defensive fronts will be short of forces for the decisive attack. He, on the other hand, who occupies the defensive line too weakly must be in constant fear of the enemy

overpowering it before his own attack has succeeded and brought about the decisive issue. But the same danger accrues to him who in attack or defence has underestimated the enemy's fighting strength. His strategic account will then prove always faulty.

All strategic and tactical questions can in the last instance be traced back to this reciprocal effect of attack and defence, this seemingly so simple relation. We can, therefore, easily judge how highly important a correct appreciation of this relation must be for the whole conduct of the war. The distribution of forces based on this appreciation often contains in itself the germs of victory or defeat. This holds good first of all and in a special measure for the strategic concentration. The mistakes made at this initial distribution of forces can scarcely ever be made good during the course of the war. This we are also taught by Moltke, who was the first to think out and direct a concentration of considerable masses of troops with the aid of modern means of transport. But this lesson holds good for the initiation of any larger operation of modern type; with modern armies it also holds good when concentrating for battle. Its importance has grown with the growth of the armies of masses, since changes in the distribution of forces become all the more difficult the larger the masses with which we have to deal.

The pernicious consequences that might arise from our own and the enemy's forces being wrongly estimated, and if on this the strength of the forces, the grouping of the troops, and the strategic measures are determined, are particularly well illustrated by the way in which the Russians conducted their recent wars.

They enormously underrated Turkey's military efficiency in 1877, and began the war with forces far

too weak. In consequence a terrible crisis arose, which was safely got over merely because the Turks did not understand how to take advantage of the favourable situation. But in Manchuria Russian command sinned in the opposite direction.

The first victories of the Japanese seem to have made a positively overwhelming impression upon the Russian commander. Since then he laboured under the notion of having to fight against a tremendous superiority, even against a tremendous numerical superiority, and this notion paralysed his energy constantly afresh. Russian command has been repeatedly discussed already, it is true, but it will pay to study it also from this point of view. Very interesting is it, for instance, to compare the estimate made at Russian Headquarters of the Japanese strength with the actual forces employed by them, and to notice how Kuropatkin, by reason of this estimate, which sometimes was double what the forces really were, thought himself everywhere too weak for attack, and believed the Japanese to be strong enough to turn him with powerful masses without materially weakening themselves in front. It is highly instructive to see how, owing to this over-estimation of the enemy, not only the offensive spirit was completely paralysed, from sheer anxiety of all kinds of purely imaginary dangers, but also how the grouping of the forces seemed to meet, with apparently wise foresight, all possible strategic contingencies, yet never the actual strategic situation. This can be traced throughout the whole course of the war.

This reflection brings us to another demand of general importance in the conduct of war, which appeals to the moral qualities of the commander. Clausewitz calls fear a lost equilibrium and Bismarck terms

it a "bad adviser." Fear lured Kuropatkin into adopting the most contradictory and pernicious measures, in the same way as it condemned to sterility Schwarzenberg's conduct in the War of Liberation. It acted like a nightmare upon the opponents of Frederic the Great and of the mighty Corsican, and puzzled their military judgment. In the face of such manifestations we must demand from *a commander that in fortune and in misfortune he keeps his equanimity and does not allow the calm objectivity of his judgment to be obscured; that no failure and no misfortune makes him depart from the principles of an offensive and of a bold conduct of the war; and that no anxiety should get the better of his judgment and of his resolution.*

If it is difficult under ordinary conditions to adhere unerringly to the guiding idea of a plan of operations in spite of the thousand and one changes in the military situation, never to lose sight of it, and to turn it into deeds under the pressure of the most contradictory demands, and under the most difficult material circumstances, without being misled by subordinate considerations—if this alone requires a clear mind, tremendous self-confidence, complete mastery of armaments as well as of troops, unceasing energy and circumspection, ever full of resources, and knowing how to break down any opposition and remove all friction, so much more must these qualities assert themselves when misfortune threatens to unnerve the soul of the commander, and when the columns of the army, beaten and retreating, begin to lose their moral balance and power of resistance. And yet it is just in such situations imperatively necessary that the commander, whose soul infuses life into the whole army, should not lose his equanimity, but keep alive his spirit of enterprise and daring, and preserve the high spirit of

his soul, which looks upon defeat only as a step to later victories.

The same as in days past Blücher, after the unfortunate actions and heavy losses which he suffered in his march to the Marne in February, 1814, never thought for a moment of giving up the offensive, but at once collected his forces for renewed advance; the same as Gneisenau, after the unfortunate Battle of Ligny, when making arrangements for the retreat, did so already with a view of co-operating with Wellington's army, thus preparing the victory of Waterloo; the same as King Frederic after Colin and Kunersdorf only thought of making good the losses by all the greater victories; so the commander of the future must think, so must he strive to act. In this way alone can also, in the armies of masses of modern times, that mental and moral elasticity of mind be preserved which is indispensable for conquering in war.

We must not conceal from ourselves that the modern armies of masses, composed as they are, will be very much more susceptible of depressing influences than the smaller but more firmly-knit armies of the past. This weakness must be compensated for by greater elasticity of mind of the commander, and by his spirit of enterprise, else it must be feared that every failure of even single portions may lead to some demoralization and weakening of the whole army, thus disturbing at the same time the mechanism which moves the masses and keeps them active.

This mechanism is, by itself alone, something powerful and intricate. A thousand wheels must organically work into each other to keep it going, and yet the independence of the members must be preserved in each place. That is only possible when

the whole is animated by a confident spirit sure of victory. The commander alone can rouse it and keep it awake. It is enormously difficult to be equal to this task, for as easily as it may happen that a modern army is demoralized and disorganized, so difficult is the art of controlling and animating it spiritually. Special qualities of character are needed to exercise that art. To a few mortals only, called to exercise authority, are given these qualities to any great extent; nor are these qualities alone enough for solving the problems devolving upon a modern commander. The domineering greatness of his character must be supplemented by an inborn military talent, by superior mental faculties, and by a comprehensive professional knowledge. This is absolutely necessary under modern conditions.

Every branch of the military science must be mastered by the commander of to-day, and this knowledge be available at any moment; he must know the organism of the army to the minutest detail; he must be absolutely clear on the reasons for, and the consequences of, his actions, on the factors decisive in war and in battle, and on the frictions he is likely to meet. Only then, if he is otherwise fitted for it, can he with a perfectly free mind exercise the difficult art of conducting war under modern conditions; only then will he inspire all his subordinates within all parts of the army with that confidence which assures him the control of the masses under any circumstances, and that can raise all mental and moral qualities to their highest pitch.

Of the *modern commander* and superior leader of troops *must be demanded* that he is a *theorist of war*—certainly in the sense of Clausewitz—*so that he can be a successful practical soldier.*

The mere routinist fails, and must fail, the moment he is approached by the great and difficult problems of modern warfare. He will always try to solve them with the inadequate means afforded by his limited experience. Nor can the "Court-General," who is obliged to spend his life in futilities, and who has no time for serious military study, ever satisfy the demands of the future. Those should take this to heart who may be called upon to take command in the face of the enemy. In war the mental labour cannot be retrieved, which was neglected in peace. The times of the "Review-General" are past recovery, and in the lower grades, too, the mere dare-devil will succumb to him who is aware of what he ventures on.

"Put your aim always high, if you design a plan of campaign; make the project as comprehensive as possible, for we always fall short of our aim. Constantly muse upon your profession, upon your own enterprises, and upon eminent commanders. *This meditation is the only means* for acquiring that rapidity of deliberating which at once grasps everything, devises everything that is applicable to the circumstances of the moment . . ." These are the words in which Frederic the Great clothed the doctrines once transmitted to him by Prince Eugen of Savoy. They have twice the value to-day, when all military action is so much more materially difficult. A leader who is in doubt of what he can do and what he will do, will soon fail in resolution and action. A perfect clearness of mind alone gives birth to resolution. A commander must thoroughly think out his task, to-day more than ever.

He alone who has well thought out the art can practise it.

CHAPTER IX

TIME, SPACE, AND DIRECTION.

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THE art of war uses troops the number of which is certainly a given factor, but the value and efficiency of which can only be estimated; the art reckons with mental and moral forces which from their nature are imponderable, but it also reckons with factors that can be placed in the strategical and tactical preliminary calculation as quantities of a definite value—that is to say, the art of war reckons with space and time, which have a distinct reciprocal effect upon each other.

Every military action comes off in a clearly defined space, and demands for its execution a minimum of time, with which we have to reckon. The assailant bent on beating the enemy tries to gain space at the same time. He wants to push the defender from the ground he is standing on, so as to confine him more and more in space, and deprive him of the means he is drawing from the country for his resistance. The defender, on the other hand, wishes to secure his country against conquest and preserve unimpaired the means of resistance afforded by that country. He strives not to lose space, and to gain time while making this effort. He wants again and again to beat off the enemy's attacks until the latter's power of attack is exhausted and he gives up the combat. Every gain of time is of advantage to him, firstly, because the very fact of the time being gained prevents the con-

quest of the country for that period; and, secondly, because he forces the assailant to increase his efforts, exhausting thereby the latter's strength, and procuring the chance of awaiting or bringing about a change in the political situation. The longer the Austrians could keep the field in 1866, the more readily could they count upon France's intervention in their favour. Of the same import it was to the French in 1870-71 to hold out in Paris as long as possible. They not only gained time thereby for renewed military efforts in the provinces, but could also hope for the intervention of the neutral Powers if the fight for the capital continued for any length of time.

Time is for the assailant, in a certain sense, of decisive importance too.

It must first of all be counted an advantage if at the beginning of hostilities or of any enterprise during the war we have completed our preparations sooner than the enemy—in other words, if we have finished mobilization and concentration, or the assembly of troops detailed for a special object, sooner than he. In that case we can hope either to attack the enemy before he has all his forces ready for defence, and thus upset his plans should he himself have prepared for an offensive, or oblige him to retreat without fighting, gaining thereby at least space and a certain amount of moral superiority.

A further advantage of beginning operations early is that in advancing the area of operations separating our own from the enemy's army is made smaller for the enemy, while we ourselves can make full use of it for grouping our forces. This advantage is bound to assert itself, especially under the conditions of the modern war with masses. The more time all movements of masses occupy, the more space do we need

for carrying them out while going forward. A limitation of the area of operations is therefore a grievous disadvantage for an army bent on taking the offensive, because its chances for strategic operations decrease thereby, while to the enemy, by advancing earlier, accrues a wider area of, and greater freedom for, operations.

Gaining space is, as a rule, an advantage in war. The farther we push the enemy back, and the more land we occupy, the more we deprive him of the means for conducting the war, which we then can use to our own benefit. On the other hand, gaining ground may lead us to occupy districts favouring operations and the effect of arms, thus affording valuable advantages. Finally, the conquest of hostile country has the twofold moral effect of increasing the self-reliance and the feeling of superiority of our own troops, and of shaking the enemy's confidence in victory.

Accordingly, a loss of ground denotes generally a moral and material disadvantage. Yet there may be cases where this disadvantage is counterbalanced or even outweighed by the military advantages derived from an abandonment of space. We can retire with the object of occupying ground favourable for fighting, or to force the enemy otherwise into an unfavourable situation. When the Parthians withdrew before Crassus so as to lure him into a hasty pursuit and to destroy him then all the more readily, the advantage they gained thereby far outweighed the disadvantage of the loss of space. It was the same with Russia in 1812. The moral and material loss suffered by the Russians in retreating was infinitesimal compared with the heavy injury caused to the French by their long and fatal advance. Owing to the size of the Russian

Empire and the then poverty of the thinly-populated country, the loss of space hardly signified anything to the defender, while the gain of ground, as a matter of fact, turned into a decisive disadvantage to the enemy.

There is, however, no advantage or disadvantage inherent in the gain or loss of space itself, but that it is always the relation of space to the vital military forces that lends it a certain amount of importance. This leads us to the further conclusion that the decisive direction, too—that is to say, therefore, the direction in which the attack of the military forces may be able to produce the greatest success possible—can never be determined purely by space, or even by geography, as was taught by the pseudo-scientific strategists of past days, in complete misconception of the true nature of war. It is always entirely the relation to the enemy's forces that seems to make a certain direction the decisive one; this is so even if that relation is not at once recognized, because it is an indirect one.

If we wish to express the fundamental idea of all warfare in a form of universal application, we must clothe it in the definition: *To use the forces available in such a way as to attain, in case of success, the most decisive effect imaginable—in other words, as to shake or break the will of the enemy in the surest manner.* Any attempt to embody the decisive direction when formulating this axiom would destroy its truth and general application. But if we have in view a war of organized forces only, conditions, therefore, of European armies as limited and defined by civilization, a systematic importance also attaches to the decisive direction; then *it will be imperative, as a matter of principle, to conduct the attack in the decisive direction*

and the defence at the decisive point, which latter is generally determined by the direction of the attack. This is already expressed in the term "decisive." If we want to break the enemy's will by destroying his armaments—his troops, therefore, above all—it is clear, in itself, that we must try to bring about a really decisive issue, and not only a gradual exhausting of the forces, and that we must, therefore, strive to bring about the issue in a direction affording at the outset favourable chances of success, and just for that reason becoming the decisive direction.

It is impossible to give a definition of the term "decisive direction" of general application. We must, therefore, confine ourselves to discussing the circumstances which may cause us to term a certain direction as the decisive one. If we are clear on this, it must in each case be left to the commander to decide what direction may under the conditions in each case be looked upon as the decisive one.

The assailant wants to beat the enemy and conquer the hostile country, so as to deprive the enemy of the means for renewing his resistance. The defender wants to ward off the attack, inflict such heavy losses on the opponent as to oblige him to desist from further fighting, and to hold the country that provides him with a means for resistance. The decisive direction will therefore be for the former that which offers the prospect of the surest and most perfect victory and the greatest gain of space; the latter will face the assailant in a direction where the country will mostly favour the effect of his arms and his defensive measures, and in which he covers best the space he wants to protect and hold.

If we fix our glance before all upon the assailant, who in general has the choice of the direction of at-

tack and lays down the law for the defender, it is at once apparent that we must consider the tactical and strategical direction apart from each other, because both must be determined from altogether different points of view; and it is further apparent that the tactical and strategical conditions lead to a different conception regarding the decisive direction, and the commander may therefore be put into the difficult position of having to choose between the greater strategic or greater tactical advantages.

As regards *tactics*, there are in theory three points that may fix the decisive direction—the country, the disposition of the troops, and the situation of the hostile army's lines of communication. In reality some other circumstances may certainly be of influence—different military value of the opposing troops, and the defects noticed in the hostile command; but these things are of an imponderable nature, and cannot be treated scientifically.

The *country* has a twofold importance with regard to the decisive direction. That direction must often be termed the decisive one in which the ground allows the easiest approach towards the enemy, or the most advantageous effect of the arms, thus affording the surest prospect of victory; but, then, in all defensive positions there are some sections or points on the ground which are more or less decisive for the possession of the whole position. The direction of attack against these points must then be termed the decisive one.

A good example for elucidating this point is afforded by the Battle of St. Privat. A glance at the map shows that in this battle the village of St. Privat itself, with the commanding height it was crowning, was, without the least doubt, the decisive point. If

St. Privat was taken, it became not only impossible to hold directly the country as far as Amanweiler, but the retreat of the Fourth and Third French Corps was also most seriously threatened, because then the road on Saulny, and thus the rear of the French position, lay open to the Germans. A defeat of the French left, on the other hand, would have brought the victor under the guns of the Forts of St. Quentin and Plappeville, and could, therefore, never have become of a similar decisive importance.

The *disposition* of the hostile troops may in so far become the determining factor for the decisive direction, as it sometimes makes it possible to concentrate superior forces against a portion of the position, thus bringing about victory. Unprotected flanks of the enemy, or fronts too weakly occupied, advanced and badly-supported positions, and similar things, will often be the cause of fixing the direction of attack. Military history abounds with examples illustrating the above. Enveloping attacks, flank attacks, and penetration, virtually gain their decisive character just through the disposition of the enemy's troops.

Lastly, the *direction against the enemy's lines of communication* and lines of retreat is of special importance. If during the progress of attack we succeed in pushing the enemy, or even a portion of his army, from the roads connecting the troops with their depots and railheads, an exceedingly precarious situation is created for the vanquished, entailing too easily complete demoralization and disorganization of the troops. The defender not only loses the connection with his supply and ammunition reserves, but also the chance of directly covering the space he wishes to hold. Only by exacting from the troops the most strenuous exertions can he by detours re-establish the proper stra-

tegic situation. Sometimes he may in such a situation be even forced to capitulate, if his lines of retreat are completely cut, or the attack itself was made already with fronts reversed.

The difficulty of such a situation grows, of course, with the size of the masses to be moved, as they are to a greater measure than smaller armies dependent on supplies from the rear, and as they will scarcely ever find their subsistence in the country itself. If the Japanese at Mukden had succeeded in pushing the Russian right over the Charbin railway in an easterly direction, and in taking possession of this important communication, a terrible defeat of the Russian Army would have been inevitable. It is, therefore, just in the modern war of masses that we must more especially pay attention to the chance of acting against the hostile communications when determining the decisive direction of attack.

If, therefore, the magnitude of success depends, no doubt, on the choice of the decisive direction, that choice involves, on the other hand, as a rule also the greatest dangers. That is in the nature of things, because the most important pivots of the enemy's position are also most difficult to attack as a rule; penetration forces us into frontal attack and involves the danger of being enveloped; enveloping the enemy and cutting his lines of communication can mostly be achieved only by exposing our own to the same extent as we threaten those of the enemy; in case of tactical failure we may be placed in a position similarly unfavourable, at least, as that we meant to prepare for the enemy; and, worse than that, should envelopment bring about an attack with fronts reversed, the risk we run ourselves is tremendous.

To determine the decisive direction from the stand-

point of strategy, we must distinguish between the actual operations on a strictly limited theatre of war, and the design of a war-plan or the fundamental arrangements for a whole campaign. In the first case it is a question of the relation of two armies acting under definite conditions to each other; in the second, of the potency of the States in general, of geographical and frequently also of political circumstances. In the former case we may speak of an *operative* decisive direction, and in the latter, in a wider sense, of a *strategic* decisive direction. Both terms cannot, of course, be strictly distinguished from each other, yet they afford the chance of sifting the conditions for our reflections. The strategic decisive direction, which gives its distinct impress to the plan of campaign, forms the basis from which the operations develop. In these latter the decisive direction may often change and be different for the various army portions. In the plan of campaign, on the other hand, the decisive direction is a fixed and, as long as the conditions remain the same, a constant term.

If we fix our glance first, in a wider strategic sense, on the latter, it becomes apparent that political and geographical conditions greatly affect it in the first instance. Policy, of course, must not, as we have seen, directly influence military action proper, but we must certainly pay heed to the political attitude of neighbouring States, their neutrality, or their likely participation in the war, and similar conditions. Nor must the influence of geographical conditions be conceived as if any definite geographic direction could, by itself, be accepted as the decisive one; but it must be understood to mean that geographical conditions may force upon the conduct of war itself certain restrictions, and, on the other hand, hold out favourable

prospects. These political and geographical effects may thus be of very great import, and may sometimes be, to some extent, opposed to the purely military points of view.

An examination of actual conditions will best show the many ways in which, in this sphere of political and geographical strategy, the different points of view cross each other—how difficult it therefore is to lay down definite rules of action.

The geographic formation of the frontiers of two hostile States will, first of all, exercise a determining influence on the whole military action. If, on the other hand, to-day a war should break out between Italy and France, the chances of attack would obviously be very limited for both parties, owing to the fact that the frontiers of both States are contiguous at comparatively short stretches only, and are formed by high mountains, an advance over which would entail heavy sacrifice, and impose on the conduct of war a form altogether distinct. These difficult frontiers can only be turned by the narrow strip of coast, which can be taken under fire from the sea, or by neutral Switzerland, therefore likewise a difficult mountainous country. Italy has, moreover, to protect a long open coastline, which, on the one hand, points France towards co-operating in her land operations with her fleet, and, on the other, forces Italy into making ample provisions for the protection of her coast. These considerations would no doubt have a great deal to say in determining the main direction of attack on both sides, and in distributing the forces accordingly.

The geographical conditions would again assert themselves in a different way in a German-Russian war. Owing to the spatial extent of the Russian Empire, a complete subjection, or even conquest, of Rus-

sia cannot be thought of at all. For Germany it would in such a case be always a question of a limited offensive only, where from the outset the defensive must be kept in view. It would therefore be a question of not only beating the Russian army, but also of gaining a position which on the one hand would oblige the Russians to assume the offensive on their part, and on the other would favour the German defensive. It needs no further proof that the geographical conditions would here, in many respects, be decisive. It would depend on cutting Russia off from the sea and confining her to her communications by land—therefore, on restricting her to her own inadequate means.

Geographical conditions will always be of importance in details, too. River barriers and mountains considerably hinder the movements of armies, and render the offensive difficult. The larger the masses of the armies, the more these difficulties assert themselves. It hardly need be emphasized that cultivation and accessibility caused by the geographical position and nature of the theatre of war will affect all military operations, and it is just as plain that all these conditions must also exercise a certain amount of influence on the decisive direction of attack. Difficult and inaccessible country we try to avoid in the attack, but take advantage of any likely merit in the shape of the frontier, while the defender must likewise heed these conditions by his counter-measures.

To what extent the political, in addition to the geographical, conditions may have a voice in determining what should be considered as the decisive direction is clear, for example, from the Franco-German War. The French, in 1870, thought to act in the best and most decisive way by advancing in the main direction of Mainz and separating North and South Ger-

many. They hoped that the political particularism of the Southern States would assert itself if they advanced successfully against the Prussians, and at the same time preserved the Southern States as much as they could from the horrors of war.

If we have to fight several opponents, we will generally direct the main blow against that enemy from whose political intentions we may expect the greatest energy in the conduct of the war, hoping by a victory over that enemy to make the other, with less strong inclinations for war, to falter. But this political consideration may run counter to military reasons.

Considered from a purely military point of view, the main attack should be directed against that enemy whom we may expect to crush quickest in the most decisive manner, and we should contain the enemy on that side which offers the best prospects of defence, and on which the enemy is, on the other hand, less likely to achieve easily decisive results. It must also be considered whether one opponent is likely to appear appreciably quicker in the field than the other. If the various points of view are antagonistic and cannot be reconciled, it is a matter of ingenious tact to decide in the one or in the other direction.

If Germany, for instance, had to conduct a war against France and Russia, it would, from a political point of view, be desirable to deal France first of all as crushing a blow as possible, her enmity towards Germany being, no doubt, deeper than Russia's. We arrive at the same result if we consider that France is ready for war very much quicker than Russia, where mobilization and concentration take very much longer time than with her western ally; so that one can hope to beat the French before the Russians could become

dangerous. Nor must it be overlooked that a rapid victory over France would at once paralyse the Russian conduct of war, and have a cooling effect on England too, who might feel inclined to side with the French.

On the other hand, it must be remembered that Germany's strong western frontier can be held defensively very much longer than her eastern frontier, which is less protected by Nature. It renders an obstinate and lasting defence of one section after the other feasible, and even a victorious opponent cannot reach the sources of the German defensive power so easily as from the east, which, supported by a glorious tradition and a powerful public organization, is most productive in the north-east. But a defence of the eastern frontier cannot be easily effected with weak forces, and it will not be long before Berlin is threatened by an opponent victorious in the east.

Under these antagonistic conditions the decision in what direction the first main attack must be delivered—what, therefore, must be looked upon as the decisive direction—will depend on how strongly we estimate the resisting power of the French and the offensive power of the Russians; but it will also depend, on the other hand, on the import and intensity of the political motives by which the one or the other side is supposed to be swayed, as well as on the general situation in the world—that is to say, therefore, on the political attitude of the other Great Powers in Europe. The chances of other States taking part in the war that has broken out must always be kept in view. That must, of course, not paralyse the energy of military action itself, but may, nevertheless, affect the choice of the decisive direction of attack in conclusive manner. If, for instance, it could be expected that Austria would

intervene in favour of Germany, and England in favour of France, in a war which Germany had to wage on two fronts, all the conditions determining the choice of the decisive direction of attack would at once be changed. Every political consideration could, and must, then give way in such a case, and the decisive direction would be fixed from purely military points of view.

If Austria assumes the offensive against Russia from the south-west, or even merely threatens with such an offensive, Russia could only carry out an intended attack in the general direction of Berlin with very much weaker forces than if she could engage her whole strength against Germany. The danger for Prussia is then much smaller, though still serious enough. If England also takes part in the struggle, it can be anticipated that the offensive of the combined French-English main forces will be conducted through Belgium and Holland. In this case not only the strong Rhine barrier would be turned, but also the German naval basis on the North Sea coast be most directly menaced, which is of special importance to England, as most concerned in the destruction of the German fleet. France, on the other hand, by avoiding South Germany, would then try, above all, to crush Prussia, with the renewed hope of fanning into new life the supposed German particularism. The passionate opposition raised by France and England against the fortifications of Flushing makes it plain that such a plan exists. An English-French attack of this kind would be for Germany of so threatening a nature with regard to the North Sea coast and the general direction of the attack, that she must, casting aside all other considerations, recognize her main task in delivering a counter-blow against that offensive. Whence the blow

must be delivered would depend on the grouping of her own fighting forces.

The reflections hitherto have shown that sometimes we cannot avoid taking into consideration political circumstances when determining the decisive direction of attack; but at the same time they make it plain that political considerations are only justified if a possible change in the political attitude of States hitherto unconcerned or neutral threatens to change also the whole military situation with which we must deal. The ideal remains always the same, of being able to determine the decisive direction of attack from purely military points of view, and statecraft has solved its task in the most perfect manner if it makes it possible for the military command to act in compliance with this ideal.

The choice of the direction of attack is then, as a rule, a comparatively simple matter, because there are then only military points of view to be considered, and the object of the war can be directly and logically attended to: to beat the hostile forces not only as decisively as possible, but to stop also the sources of the hostile power in such a way as to make it as difficult as possible for the enemy to re-establish his army after the defeat it has suffered. The direction of attack must therefore be chosen so as to make the advance end in as decisive a battle as possible, to push the enemy's forces from their base—that is to say, from their connection with the hinterland—and to threaten as directly as possible the main centres of the hostile power. In most cases it will be possible to fulfil the task thus set by the choice of *one* main line of operation. But the conditions, especially in a war against a civilized State conducted with organized armies, may sometimes be of such a nature as to make the at-

tempt to do justice to all requirements in fixing one main line of attack amount to finding the square of a circle. This will always be the case if the enemy's main force can nowhere be localized, or the defeat of that main force would not promise to bring about the decisive issue of the whole war, but holds out only the prospect of a limited local success; if we have, therefore, to deal, as it were, with separate wars, as may happen in a widely-extended theatre of war. The means of breaking the enemy's will remains also in this case the same; the only difference is we shall be forced sometimes to strive for the decisive issue through the co-operation of different armies on separate lines of operation.

The following factors are generally of some account in deciding on the choice of the main direction of attack: The geographical configuration of the enemy's country and the conterminous frontiers; the distribution of the fighting forces and the probable intentions of the opponent, which can often be gauged by his preparations; the position of the base of the hostile army, of the railways joining it with the base, and the efficiency of our own railway net in so far as it makes the concentration of masses in a definite direction seem feasible or not. Special circumstances, too, impossible to comprise into categories, may occasionally be of influence; and, lastly, the time at which the attack is to be made is in a certain sense also decisive for the direction of attack. To the side which is sooner able to operate than the other is given the initiative, to which the opponent has to conform. This same party has also, on the other hand, sometimes the chance of attacking the opponent by surprise before he is sufficiently prepared to fight. Then the

shortest line by which the enemy can be reached is at the same time the decisive direction of attack.

Of special importance among the factors determining the direction of attack is the situation of the hostile base in reference to the army, and this is so in particular under modern conditions, which cause the troops to be greatly dependent on their lines of communication. We can generally assume the base to be the line of railheads behind the field army; in other words, the collecting depots at the beginning of the offensive and the railheads in the lines of communication area during further advance. But in a wider sense the capital of the hostile country, and in retreat our own capital, will often acquire a great importance as a base of operations, because the capital is the main centre of all military and civil administration.

The central authorities are, as a rule, all united in the capital; all main arteries of communication converge on it, so that actually considerable military importance is in most cases attached to it, this importance being enhanced by the fact that the loss of the capital would usually produce a far-reaching moral effect.

It may therefore be indeed imperative to select the hostile capital as the object of attack. If it is threatened, it may be anticipated that the hostile main force must stand at bay to protect the capital. And if we succeed in pushing the hostile forces away from the capital, or, more than that, in occupying that place itself, the whole administration of the hostile State is upset, and thus also the army most seriously damaged.

Especially in France is the importance of the capital as the centre of military power still obvious. Paris is not only the undisputed and sole spiritual centre,

but also the largest fortress and most important arsenal of the country. With Paris France stands and falls, and it is not likely that after its capture the provinces will successfully resist for any length of time. No other capital in the world can claim a similar importance. But every one of the other capitals is politically and militarily important too, though each in a different way. It is so, perhaps, the least in Russia, where neither St. Petersburg nor Moscow can fully claim to be the national capital of the empire, and where both, compared with its spatial extent, represent military centres in a limited sense only. The defensive power of Russia rests on the extent of the country itself. Much more important is Vienna for Austria. It forms the common point where many various national elements forming the Austrian State unite, being thus a real centre in which the forces of the different portions of the empire are uniformly combined. There is no Austria without Vienna, but merely individual portions pursuing interests of very different kinds. To hold Vienna is therefore of the utmost importance also from a military point of view, gaining significance in equal measure as the exclusive interests of the various dominions of the Crown develop. Berlin has not quite the same importance for Germany. The country is not by a long way centralized in the same way as France, but its internal union is very much greater than in Austria. Neither as a centre nor as a point of common ground has it, therefore, an importance similar to that of Paris or Vienna. We can also very well imagine military resistance to be continued should Berlin even have been taken by a Russian invading army. But that city is, on the other hand, the centre of the Prussian and North Germany military power, in which the strength

of Germany virtually roots, and is the undisputed political centre of the empire. As such it will form, no doubt, one of the most important objects of attack of our adversaries.

Rome, however, is of no military importance at all. Italy's strength rests entirely on her northern provinces, and it will surely never enter anybody's head to form a plan of war having the occupation of Rome for its local object. In a war with Italy, from whatever side it may be waged, it will always be a question of defeating the Italian Army in Northern Italy, and pushing it towards the Alps away from the actual peninsula. If that is successfully accomplished, the main issue is decided from a military point of view, and it is then only a question of moral import whether Rome should be captured as well.

Some examples will contribute to making the effect of the various factors clear which may have a bearing on the choice of the direction of attack.

If we place ourselves upon the Russian standpoint, the direction of attack on Berlin is positively the decisive one, even if Austria should be allied with Germany. Strong forces can be most rapidly concentrated close to the German frontier; here Russia's most vulnerable portion—Germany's direction of advance on St. Petersburg and Moscow—is most directly covered; here, opposite the open German frontier, success is, besides, comparatively easiest to achieve. In the south-west, on the other hand, the extensive Pripiet swamps guard against an Austrian invasion, and afford suitable positions for defence. Russia can therefore hope to have defeated the German armies before those of Austria can become dangerous in the vast theatre of war. But if Russia's armies have once successfully invaded Brandenburg and Silesia, she can

attack Austria by enveloping her from different directions. It would then be extremely difficult for that State to gain decisive successes over the hostile armies; while Germany, on the other hand, is still a danger to Russia, should the Austrian armies have been beaten, and Russian armies be victoriously invading Hungary and Galicia. Geographical conditions account for this.

We see that in the domain of higher strategy, when plans of campaign have to be designed, the fixing of the decisive direction is affected by factors of the greatest variety, the importance and effect of which can for the most part be only estimated. Full scope is therefore always left to individual opinion, it being but rarely possible to term simply one direction of attack as the decisive one. The same holds good when dealing with actual operations—that is to say, with movements of armies where a purely military problem must be solved in conformity with the general plan of campaign, within a distinctly limited theatre of war. The conditions are simpler here in so far only as but purely military reasons determine the action, provided the procedure is sound, and operations and tactical issues are very much more directly connected with each other than in higher strategy, which deals with the plans of campaigns and lays down broadly the directions of attack. For the rest, the leading fundamental ideas are the same in the broader domain of strategy and in the narrower one of tactics—that is to say, to beat the hostile forces as decisively as possible, to push them from their lines of communication, and to deprive the enemy of the use of as much land as is feasible, is always the task, and at the same time the means of breaking the enemy's will. The decisive direction of the operation must be selected from this

point of view. Frontal attack, envelopment, flank attack, central penetration, are again and again the forms with which the problem at hand must be solved; boldness, surprise, and sudden attack are the means of raising success to its highest pitch.

It will generally be a question of either threatening the enemy's lines of communication or of choosing a line of operation between separate hostile army portions endeavouring to co-operate. Within these two points of view can be comprised most of the cases where we have to deal with the choice of the direction decisive for an operation.

The question may be discussed whether a strategic flank attack is feasible with the armies of masses in modern times. That question, in a certain sense, I should rather negative.

If small armies are concerned, as used to be employed in previous wars, a strategic flank attack can certainly also be carried out in future, and then with less difficulty than formerly, because the modern means of communication altogether facilitate every operation.

But if it is a question of the whole army of a great State acting as a whole in compliance with a uniform idea, a pure flanking operation, an envelopment of the enemy's flank with the whole of our forces, is then evidently impossible. The breadth of front of such an army and its equivalent depth in a flanking movement are far too great for such a movement to be uniformly carried out. The concentration by rail for such an operation, and, before all, keeping the lines of communication in proper working order during its execution, would no doubt prove impossible.

It may, however, be feasible to express the fundamental idea on which a flank attack is based by a

strategic form which takes due account of modern conditions—namely, by the form of a strategic attack with one flank refused. It may be compared with the oblique battle order in the sphere of tactics. What is there attained in tactics on a small scale is here repeated in strategy on the very largest scale possible. General Freiherr von Falkenhausen has also tried to apply the idea of Leuthen to the movements of a modern army of masses.* Yet in the example he has worked out it does not come to a real strategic flank attack, but to an attack upon a wing with a twofold local envelopment of the hostile army portion attacked. The strategic intention by which he is guided can, I think, be expressed still more strikingly by the attacking wing not advancing on a straight front, but with the army in echelons, the other wing evading the hostile blow, which latter is also done by General von Falkenhausen. An example—of course, a mere theoretical one—will illustrate the idea in the simplest manner.

Leaving all political conditions alone, we can very well imagine a German offensive against France being conducted by the northern wing of the German Army, with its extreme right along the sea-coast, advancing with the armies echeloned forward through Holland and Belgium, while the German forces in the south evade the blow of the enemy, retiring through Alsace and Lorraine in a north-easterly direction, and leaving South Germany open to their opponent. The advance in echelon of the German attacking wing would force the left wing of the opposing army into making a great change of front, bringing it by this means alone into an unfavourable situation; but in the south the French would likewise be obliged to carry out a stra-

* "Flankenbewegung und Massenheer."

tegic left wheel, thereby getting into an unfavourable position to their base. Strategically would here be attained what Frederic the Great achieved by his attack in echelon at Leuthen tactically.

A German success in the north would lead straight on Paris, and touch the vital arteries of the French Army much sooner than the latter could gain decisive results in South Germany. In such a case the position of the French army portions which had penetrated into South Germany would likely become extremely critical, as they would find their line of retreat most seriously threatened from the north.

There is no need at all for any specially intricate and difficult movements of the German Army. It would be chiefly a question of properly distributing the forces and regulating the extent of the retrograde movement of the left wing. That must never be allowed to go so far as to expose the lines of communication of the German right wing. The pivot of the movement, which might be fixed somewhere in Northern Lorraine and Luxemburg, must be vigorously held, too. People have therefore often thought of turning Trier into an army fortress, and the idea of fortifying Luxemburg is also partly based on similar points of view. These reflections show, at any rate, the prominent importance of the fortress of Mainz. It would be, further, advisable to hold a strategic reserve in a central position, ready for reinforcing, in case of need, either the right or the left wing.

The forward movement of the right would have to be made from the Lower Rhine in echelons of armies, the leading army being the strongest. The operations of the left wing, however, would amount to a great strategic wheel to the rear, with much shifting of the lines of communication, which must be provided for

in time. The line of the River Main would be particularly suitable as a new base. A comparatively strong detachment should, moreover, retire from the Upper Rhine in a due easterly direction, to protect the outer flank of the army giving way to the north-east, and to act as an advanced echelon on the flank, as it were, thus giving the chance of enveloping the flank of the pursuing enemy. The railways could with great advantage be used to support such a diverging movement. The offensive of the right would also be extremely favoured by the much-ramified Dutch-Belgian railway system.

If we summarize what has been so far said on the operative capability of large armies in the offensive, we find that the commander's will is not at all restricted to such narrow limits as may appear at first sight. Fixing the various rates of movements, combining marches forward and backward, detailing and employing strategic reserves, and echeloning the armies, are the most essential means by which the commander can manifest his strategic liberty; and as any change in the grouping of the forces in marching forward requires a sufficiently large, open area of operations, he will, as a rule, be in a position to secure it if he understands how to make some sacrifice in the interest of the higher object.

CHAPTER X

PRINCIPLES OF COMMAND

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“To bring about the combat under as favourable conditions as possible,” is the sole aim of strategy. No matter whether we try to attain it mediately or immediately, this injunction ever remains the ruling factor for all strategic action. Where we do not satisfy it, we sin against the spirit of war itself, and yet only too often do we become aware in military history of this sinning against the spirit of war. Even where we are convinced of its correctness, we do not always act up to it in practice; and we find often enough points of view becoming decisive in the strategic measures of commanders absolutely contrary to the dictates of an issue by combat. The cause, I admit, is often that, in spite of correct theoretical knowledge of what strategy must strive after, the circumstances themselves are incorrectly appreciated; but frequently also that among the numerous demands of a material and personal nature approaching a commander, and the many restrictions under which he must act as a rule, he either loses the clear perception of the points of view decisive for military action, or he is wanting in energy, or has no chance of enforcing his will in spite of all the difficulties besetting him.

If we survey the whole domain of frictions, which often with a semblance of justification and with the pressure of greatest authority assert themselves, we

can hardly wonder that over and over again commanders have been urged from the path of logical action, and finished with adopting half and wrong measures. But that is just the worst that could happen in war. If in almost all the spheres of practical human activity errors once committed can be rectified, and losses be made good, errors in military matters, whatever the final result, must be paid in blood. Many happy and flourishing human lives fall victims to want of character and consistency, truly murderous when revealed in military command.

We must, therefore, *peremptorily demand that all strategic measures have for their sole object the bringing about of as favourable conditions as possible for the decisive combat.* But never must we act the opposite way—that is to say, look upon concentration and war plan as the given factors, and then wait and see whether from the situation thus created we can evolve tactical victory.

The above demand looks simple and natural, but is in reality, under the very modern conditions, exceedingly difficult to comply with in full measure.

But just for this very reason must we emphasize it all the more.

So long, indeed, as we have at our disposal a numerical or other satisfactory superiority, we may often violate the spirit of this demand without losing victory over it. Wrong action remains, then, seemingly, unpunished, because punishment becomes apparent only by the successes being smaller, and the losses perhaps greater, and because the surplus in force sufficed to neutralize the indifferent tactical situation created by the strategic operations. But where opponents equally matched face each other, or, more than that, where a weaker adversary must try issue with

a stronger one, the application of this principle becomes positively decisive for the conduct of the whole war. The palm of victory will be carried away by him who, in all his measures, most logically and most vigorously keeps in view the tactical issue, and knows how to bring it about under more advantageous prospects of success than his opponent. Strategy must never be anything but the obedient servant of the tactical issue. We must try to grasp clearly what combat requires, in what form it is best carried out, and from this standpoint we must construe *backwards* the strategic action which precedes combat in time.

From the requirement that all strategic measures should be adopted in deference to decisive combat, directly results the further problem of strategy, to group and move the troops so that all forces deployed *in the foremost line come simultaneously into action, and that the strategic reserves take part in the main issue too*. Also the detachments far away from the decisive field of action must be employed in such a way as to make their activity gain a direct though distant effect on the combat fought in the most decisive direction. Forces which remain inactive during the decisive issue are, under any circumstances, a loss of force which may often impair the magnitude of success, or even jeopardize victory. The enemy must everywhere be held fast, and prevented from concentrating his forces in superior numbers in that part of the theatre of war in which the decisive combat is planned to come off. This holds good for the strategic offensive, as well as for the defensive. This makes at the same time all those enterprises generally inadmissible which a former age was wont to comprise in the term "diversion." Diversions are only permissible if a substantial surplus of force is available for

which no room is found in the decisive theatre of war.

If, for instance, in a war of Germany against England and France, the English made their former menace true and landed 100,000 men in Jutland to operate on Berlin, such a procedure would be termed diversion; it would paralyse the offensive power of the adversaries on the decisive field of action more than that of the Germans.*

A further demand which must be made upon the art of command in the solution of strategic and operative problems is to this effect: *The efforts must always be directed to maintaining the exterior lines*, to making the enemy crowd together convergingly, and to never exposing oneself to the danger of being enveloped and crowded together.

If the demand of bringing all the forces simultaneously into action is rooted in the nature of war itself, and is therefore of general application, the principle of maintaining as much as possible the exterior lines is based on the peculiarities of modern war.

When small numbers are concerned, it is the range of modern firearms, and the chance thus created of directing a cross-fire upon the enemy who is enveloped, from which the superiority of the exterior lines originates. But with large numbers the decisive factor is the masses. The larger the masses, the more they need freedom of movement and well-regulated lines of communication to become a potent factor. It is easier to preserve both on the exterior lines than on the inner line. If the masses of modern armies, when deployed on a broad front, are driven back, crowd-

*On the British Ambassador's menacing question, what the Germans would really do if England landed 100,000 men in Jutland, Bismarck, as we know, answered: "It would not hurt us much, after all; they would be simply locked up." And he was right in a military sense.

ing together on a few roads, the possibility of substituting and moving them soon ceases, and then a catastrophe is not far off. General von Falkenhausen has most vividly and convincingly illustrated this.*

The principle of keeping to the exterior lines must, however, never become a sealed pattern. We must always keep in view that this principle of strategy is virtually occasioned by the conditions created by the masses, and therefore becomes untenable the moment space either precludes the dangers of a concentric retreat, or the masses are not large enough, when concentrated in one place, to be in danger of losing their freedom of action. We must, further, always bear in mind that all strategic action is ruled by the tactical issue—that, therefore, all strategic considerations must be held in abeyance when tactical success is promised. A victory changes all conditions. If, for instance, we wish to deduce from the fact that, tactical and strategic penetration putting us on the inner line, thus involving us in the danger of becoming enveloped, we should never attempt penetration, such a conclusion would be totally wrong. *Successful* penetration, as pointed out already, leads to the envelopment of two hostile groups, thus affording, after originally acting on the inner line, all the advantages of the outer lines. The defeated, on the other hand, must do his utmost to prevent being crowded together in his retreat and pushed from his lines of communication.

The injunction now—to be always conscious, on the one hand, of the superiority of the outer lines in modern war, and, on the other, to act in each given case according to the requirements of the situation, and sometimes even in opposition to it—makes us aware

* In his book, "Flankenbewegung und Massenheer."

of a great difficulty in the command of armies, which consists in that we have always to reckon with numerous unknown and doubtful factors, that we hardly ever receive reliable information of the enemy, that we can never know what he is going to do, and that we can, again, always attain our own object in different ways. So we are, as a rule, divided in our own judgment and feelings, since there is no such thing as a decision free from objections, and mathematically correct, as it were. More than that: even the most exact intelligence of the enemy's conditions, which we can hardly ever hope to obtain, would not enable us to act correctly, without the shadow of a doubt. There are many roads always leading to Rome, and over and over again are we at the parting of the ways.

There is only one means of making the decisions easier in all these elements of doubt, and to preserve unity of action; the will of using this means unswervingly must therefore constantly dominate a commander. It consists in always, and under any circumstances, even after a defeat and in retreat, *preserving the initiative and acting in compliance with the preponderance of one's own intentions*, instead of submitting to those of the enemy. He who always tries to learn first what the enemy intends doing, in order to make up his mind, will always be dictated to by the opponent. Ever to remain active, ever to undertake something; never, without urgent necessity, to sit still and wait—that is what is required of a commander. But this injunction gains more particular significance under modern conditions.

As all strategic movements of modern armies of masses occupy a great deal of time, and as long distances have, as a rule, to be covered in the vast theatres of war, it is very much more difficult than for-

merly to carry suitable arrangements through in time if we wait with our decisions until we have discovered the enemy's intentions. The importance of initiative is greatly enhanced compared with former times, as I have shown in another place. This cognition imposes upon a commander more strongly the duty of preserving this very initiative, and this even if the enemy is bent upon doing the same.

In such a case superiority is asserted by him *who has planned the most simple and most decisive operations and carries them through with the most unswerving energy.*

Action resting on the co-operation of different factors always involves a certain risk of failure. Simplicity and clearness afford a greater guarantee of success. "Far from making it our aim to gain upon the enemy by complicated plans, we must rather seek to be beforehand with him by greater simplicity in our designs," says Clausewitz in one place, adding afterwards that "of all military virtues, energy in the conduct of war has always contributed the most to the glory and success of arms." Not cleverness, however high it may be rated, but courage, must in the first instance determine our action.*

Simplicity and energy; it is this, therefore, which the great philosopher of war demands from us. But courage and boldness, we may add, must be all the greater, the greater the danger that is menacing us; for they are by themselves factors of success.

If we now take a comprehensive survey of the elements of modern war, of the mass of the troops raised, of the abundance of technical adjuncts needed for their movements and their communications, of the manifold arrangements requisite to supply the troops

* Clausewitz, "On War," book iv., chap. iii.

and keep them efficient for fighting, of the great difficulties for unhampered strategic movements caused by these very masses—the question instinctively is urged upon us, whether it is at all possible to comply with the demands of simplicity, and at the same time to do justice to energy in the conduct of war. At closer reflection this apprehension must vanish.

What Clausewitz is demanding is simplicity of the idea and not of the means. What he wants to see avoided are scientific manœuvres, operations built on artificial co-operation of numerous columns, or operations trying to achieve victory by strategic round-about ways, as he had so often witnessed during his lifetime. What he demands are measures striving after victory by the straightest, but also the most decisive road, and nothing was further from his mind than to recognize in technical difficulties a sufficient reason for not carrying out an operation in itself conceived in simple form.

Nor must we in this sense be deterred by any technical difficulties from carrying out what, from a military point of view, we consider to be imperative. We must rather endeavour to reduce all operations, the march and supply technics, to such simple formulas and rules, and to make the troops so much accustomed and familiar with them, that the execution of the various strategic movements are no longer found to be difficult at all.

Commanders and troops must be past masters in the art of operations, if simple movements are really to run smoothly. Simplicity of action which confers superiority over the adversary is derived from complete familiarity with the means of warfare alone. Experimenting in the face of the enemy is, however, always dangerous, and where intelligence of the stra-

tegic requirements is wanting, command will fail in the solution of even the simplest problems.

When General von Steinmetz, in 1870, took command of the First Army, he had probably never prepared in his mind for such a task. He was, therefore, still imbued with antiquated ideas and had not the slightest notion of how to arrange the marches of an army. More than that, he was even obstinately deaf to all remonstrances of his Chief of the Staff. We saw the consequences. The advance to the Battle of Spicheren brought the First Army into such a state of confusion, got it into such a maze, that it took days before it could be disentangled, and during that time it was scarcely able to deploy if the French had suddenly attacked, which was not at all unlikely.

If, therefore, simplicity of the strategic idea, trying to attain the object as directly as possible, is what command should invariably aim at, we must, on the other hand, not take this to mean that we should always strive only after the most common and after what is lying nearest at hand. That would ultimately lead to the crudest naturalism, to totally inartistic action, and would, on the other hand, as a rule be contrary to the fundamental axiom of the art of war to aim *always at the highest object*. If we wish to satisfy this injunction, we must, in war, often resolve upon enterprises the execution of which cannot be always simple, such as operation against the flanks and rear of the enemy, penetration of the enemy's position, and similar things. We must never fight shy of such action merely for the love of simplicity; we must only try to carry out the action in the most simple and most natural manner, without counting upon an intricate strategic clockwork working exactly.

Also, energy of action, demanded by Clausewitz,

proceeds but from a perfect mastery of the material forces, and from a clear perception of likely success. The principle of acting always with the utmost energy does, as was shown in another chapter, not only hold good for the Commander-in-Chief; it must also become law for every commander of troops if the utmost is to be performed everywhere. Energy forms the necessary complement to the simplicity demanded, for it conquers also unforeseen difficulties, thus promoting simplicity of action. In 1757, Schwerin and Winterfeld wrote to King Frederic: "It is true that in all operations difficulties arise, but we must despise them, and conquer them by good dispositions and vigorous execution." "Activité, activité! vitesse!" thus admonishes Napoleon his subordinate leaders, and we see Frederic the Great, too, incessantly summon his generals to activity and action.

Though, in addition to simplicity, indefatigable energy also forms a necessary element in the command of troops, yet it must, on the other hand, never degenerate into arbitrariness; we must, rather, demand that *the uniformity of the military action as a whole must*, with all deference to energy in detail, *be preserved*. The great purpose of the total action must never be lost sight of for the love of energy in a single action.

When General von Schwerin, in 1757, broke from Silesia into Bohemia with the object of co-operating with the King's army for delivering a crushing blow, the Austrian General Serbelloni was standing with a strong corps on his flank at Königgrätz. The temptation of defeating that corps before he could join the King was great, and Schwerin was nearly succumbing to it. A crushing blow upon Serbelloni was not at all beyond the pale of possibility, and in itself offered

great advantages; it was but natural that an energetic general should be attracted by such an enterprise. But that plan was in conflict with the great idea upon which the whole campaign was based. The Field-Marshal renounced the enterprise that would have led him away, and, responding to the King's bold flight of thought, he left the enemy unmolested on his flank and in his rear, marching without delay to the main decisive issue.

The campaign of 1866, too, is both instructive and interesting with regard to the required unity of action.

It was because this very unity of action was wanting that Moltke's idea to destroy the enemy was not realized. Field-Marshal Graf Schlieffen has proved this in a striking manner in his spirited discussion of the Bohemian campaign given in the oft-mentioned essay "Cannae."* Army Headquarters did not throughout make efforts to carry out Moltke's ideas, but acted from their own points of view, which were quite contrary to Moltke's. "The idea," writes Graf Schlieffen, "to destroy the enemy, which entirely absorbed Moltke, was perfectly foreign to the subordinate commanders. They thought it was their task to see that the separate armies should effect a junction. . . . The immediate object of the war was for the Army Headquarters the concentration of 250,000 men at Gitschin or Miletin in one single mass."

Moltke intended to surround the enemy on all sides by advancing with the army from widely separated points. His subordinates thought they were acting particularly vigorously if they did not fall in with this intention, but assembled their forces for battle locally. The Field-Marshal was served in the same way as was

* "Vierteljahrshäfte für Truppenführung und Heereskunde," 1910, vol. ii.

Frederic the Great when he intended to capture the Austrian Army at Prague. The learned soldiers of his time, with Prince Hénry at their head, looked upon this as a kind of madness; they, too, always wanted to defeat the enemy in accordance with definite customary rules only, like the Prussian Army Headquarters in 1866.

Count Schlieffen characterizes the measures of the army commanders for the advance as follows: The Prussian successes had hitherto been achieved by the "fire of the needle-gun" and by "outflanking." "The fire of the needle-gun was therefore now to be curtailed by formations in mass and organization in depth, and outflanking was to be prevented by contracting the front," * while Moltke was trying to attain the very opposite. It was in vain that he struggled against the particularism of the Army and Army Corps Headquarters and against the complete misapprehension of his ideas. The proof of this fact is traced by Count Schlieffen throughout the whole campaign of 1866, and he shows how by this very fact all successes were stunted and grave dangers conjured up. These reflections show the absolute necessity of Army Headquarters, as well as of all superior commanders, doing their utmost to act in the spirit and sense of the Commander-in-Chief, and to carry out his intentions, *even if they themselves do not share the views upon which they are based*. It is then only that uniformity can be attained.

A subordinate commander is only justified and obliged to depart independently from the directives of his superior, if the situation with the enemy proves, without doubt, totally different from what was antici-

* "Vierteljahrshäfte für Truppenführung und Heereskunde," 1910, vol. ii.

pated by the superior commander; yet even then his efforts must be directed to preserving the uniformity of action in the spirit of General Headquarters. But the efforts of the subordinate commanders to live up to the ideal must, on the other hand, be also met by the Commander-in-Chief. He must be required to make his intentions perfectly intelligible, relentlessly enforcing their execution where met by systematic resistance. Count Schlieffen proves that this problem was not solved in 1866. Moltke was not understood, and the will of General Headquarters was not enforced in the face of the Army Headquarters.

"Other commanders, too," writes the Field-Marshal, "had to reckon with want of intelligence, training, and resolution of their subordinate commanders. They tried to remove these defects by the inviolability of their authority and the peremptoriness of their orders. Moltke being not a commander, but merely Chief of the General Staff, was deprived of sufficient authority, and was not empowered to speak with the firmness of a commander. He had to make the best of politely advising, of obligingly leaving it to the discretion of directives, and of similar makeshifts, and was only allowed, at the direst necessity, to prevent the most glaring blunders by a Royal "I order you." Similar conditions also obtained repeatedly in 1870-71. They must not occur in the future.

The Commander-in-Chief has a right to rely on all his subordinates showing an implicitly accommodating mind, on their entering without reserve into the spirit of his intentions, and on an obedience not merely formal; but it is no doubt as well his sacred duty to take care that in peace and in war his intentions are understood, and to enforce relentlessly, in case of need, the uniformity and energy of action. He can but then

count upon attaining those great objects he is in duty bound to pursue.

In another place it was shown that it is theoretically impossible to determine universally the highest aim which can be striven after in war. It depends in each case on the proportionate strength of the adversaries and on the particular circumstances. But, considered by itself, the total annihilation of the hostile fighting forces is a success that cannot be surpassed from a military point of view, and must therefore be looked upon as the utmost attainable. We see, moreover, that the greatest commanders in all ages ever kept this object in sight as the greatest achievement of military success. In King Frederic's plans of war and battles, this idea of destroying the enemy being the main object is, above all, most clearly manifested. Many commanders have politically placed their aims higher than the great Prussian King; but none has thought greater in military matters, intended anything more decisive, and ventured more than the "Old Fritz." But Moltke took him again for his pattern. Both had in mind the destruction of the enemy. They did not merely want to conquer, they wanted to destroy the enemy—to render all further combat superfluous. It is the highest possible aim they set themselves. Total destruction of the opponent is always the most advantageous, because it sets the whole of the victor's forces free for other duties. The fact that the Germans succeeded in sweeping four hostile armies completely away from the theatre of war by the capture of Metz and Paris, by the destructive Battle of Sedan, and by the brilliant campaign of Manteuffel in the south, gave them that tremendous superiority which made any further resistance of the adversary perfectly hopeless, and also kept within bounds hostile

neutrals. For a campaign ending with the total destruction of the enemy may be of the greatest importance politically, by setting the forces of the State free; and Moltke knew very well what he did when, in 1866, he intended to put into practice the idea of destroying the enemy. For there was a dark cloud threatening for years on the western political horizon. If Moltke's plan of campaign had been carried through in the way it was conceived, the Austrian-Saxon Army must have surrendered its arms on the Bistritz, or complete tactical destruction would have been its fate. Had France then intervened, the Prussian main forces would have been available on the Rhine, and peace might as yet have been dictated in Paris in that same year. But because the battle did not turn out as destructive as it was intended, and as, on this account, strong Prussian forces were tied to the Austrian theatre of war, a situation, rather critical, was created which might have become dangerous, if France had actually drawn the sword and Austria had resolutely continued her resistance.

It goes without saying that in war we cannot always place our aims equally high, and yet in all military action, from the plan of campaign to the surprise of a piquet, *the idea of destroying the enemy must be the ruling factor*. To destroy as many of the enemy as possible—that is to say, to render harmless—must be the object of every military action; then only do we lend it that character which is directed to the utmost and conforms with the nature of war. Every military plan must be examined from that point of view. It must become the guiding star, particularly of the commander of the future. That star, it is true, points to a path of the gravest dangers and greatest sacrifices. Enveloping and surrounding the enemy, fighting with

fronts reversed, abandoning our own communications—these are the operations to which we are directed, be they the smallest or the largest; but by acting in this way the greatest prospects of brilliant successes are held out to us at the same time. “*Audaces fortuna adjuvat*” (“Fortune favours the bold”), wrote Winterfield to his King in 1757.

We must in all enterprises of war see less of dangers and more of likely successes. This must be our standing rule. The same as we always fall short of the success we strive after, so the possible dangers will never all come true. The errors committed by the enemy, for the simple reason that he does not know the intentions of his opponent, square many things, and, indeed, all the more so the bolder and the more suddenly we attack him. Certainly we shall weigh before we venture; but the venturing must follow, and over the weighing the time for action must not slip away unused. The German Field Service Regulations are right, “that supine inaction and neglect of opportunities deserve severer censure than an error in conception of the choice of means,” and nowhere more than in war hold good the words of Hamlet:

“And thus the native hue of resolution
Is sicklied o’er with the pale cast of thought;
And enterprises of great pith and movement,
With this regard, their currents turn awry,
And lose the name of action.”

CHAPTER XI

SOME CONSIDERATIONS ON NAVAL WARFARE

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HAVING broadly discussed in the preceding chapters the main points for conducting war on land, there is still one branch to be touched upon which, as we have seen, will play an important rôle in every great war of the future—namely, naval warfare.

It cannot, of course, be my intention to discuss in detail the technical and tactical questions peculiar to naval warfare. That I must leave to more qualified writers, to men aided by professional knowledge and experience. But since a war by sea may, by itself, gain in future a very considerable importance, more particularly for Germany, and exercise a great effect on the course and the issue of a war by land, it seems imperative to discuss, at least briefly, the general points of view which appear to me to be of particular significance in naval warfare, and its relation to a war on land.

It is, of course, exceptional when land and naval forces directly co-operate with each other; therefore, in general they will do so only when effecting a landing or when re-embarking, and when dealing with a naval fortress, such as happened, for example, in the case of Port Arthur. There the naval forces of both parties took a share in the attack as well as in the defence of that fortress. We can further imagine that troops on land are taken under fire by the fleet, if they

are marching or are obliged to fight within range of naval guns, as may easily happen, for instance, in the Riviera. On the other hand, land operations may very well be indirectly affected by the fleet offensively as well as defensively, and this may often become highly significant.

This manifests itself most strikingly in the case of island States, such as England and Japan. A war by land for them is altogether possible only with the aid of a fleet. The latter must first of all sweep the hostile warships completely off the sea, and establish safe naval communication between its own and the enemy's country. It must then reduce any likely existing coast defences and remove any mines before a landing is possible. It must further not only protect the transport of troops, prepare and cover the landing itself, and, lastly, secure the lines of communication of the landing corps in so far as they lead across the sea; but, in case of need, make possible and secure re-embarkation and retreat. Landing and re-embarkation must be effected under cover of long-range naval guns, so that both these operations may not be endangered by the enemy's land forces. The fleet can only carry out all these duties safely, and prevent adverse incidents, if it defeats the hostile fleet, blockades it in its ports, and tries to render the hostile auxiliary cruisers harmless.

In a defensive war of an insular State, the duty of the fleet culminates in preventing, firstly, hostile landings by defeating the enemy's fleet, and, secondly, in keeping open the ocean highway for the import of provisions and war material. For England—which, for the subsistence of her population, depends almost entirely on foreign countries—this duty of the fleet is of particular importance, since the country could be

simply starved if imports were cut off. Nor does Japan produce all she wants herself, especially rice; she can therefore be severely injured by cutting off supplies from abroad.

If, in spite of all efforts of the fleet, the enemy succeeds in retaining command of the sea and effecting a landing, it is the duty of the defending fleet to disturb constantly, and, if possible, cut off altogether, the lines of communication of the landing corps with its home country.

The Russo-Japanese War furnishes a very instructive example for most of these conditions. Only by destroying a portion of the Russian fleet by surprise, and blockading the rest at Port Arthur, was it possible for the Japanese to bring their army over to Korea, and to supply it permanently from home. Yet, in spite of their decided naval superiority, which they actually maintained undisputed, the Russian cruiser squadron at Vladivostok, which had retained some freedom of movement, succeeded in capturing and destroying a few Japanese transports.

The influence of the fleet on a war of Continental States will, of course, not assert itself in this decisive fashion; yet cases may nevertheless arise where a naval war may indirectly very much affect operations on land. A few examples will best illustrate the manner in which this may occur.

If Germany should once be forced to conduct an offensive war against Russia, it would be of the utmost importance for her to gain undisputed command of the Baltic. She could then completely paralyse maritime traffic on the Russian coast, thus preventing imports of war material from other States like England and France, by sea at least; she would oblige the adversary to use a considerable number of troops for pro-

tecting the coast and securing St. Petersburg, which would be directly menaced; she could, lastly, carry out a very much bolder offensive by land, if she were able to base herself partly on the coast. If her fleet commanded the great Russian Baltic ports to such an extent as to permit men and war material to be landed there, and to join thence the field army, the German Army would have the chance of advancing along the coast, enveloping from the north all Russian armies operating in the western provinces of the country, partly interrupting and partly threatening their lines of communication with St. Petersburg, and pushing these armies ultimately in a southern direction. The fleet in such a case would enable the army to make its attack in the decisive direction, thus very materially contributing to a likely victory. The fleet should therefore seek as soon as ever possible for a decisive issue with the Russian fleet, to beat it, and blockade its remnants in their places of refuge. This success must immediately be followed up by blockading the Russian Baltic coast and by the capture of the most important harbours.

The fleet would be of similar importance if, in a separate war between Germany and France, a German attack was conducted through Belgium. In this case, too, a German offensive could act with the utmost strategic freedom if the French fleet were beaten, and the German commanded the sea to such an extent as to allow the German land forces to base themselves at least partly on the coast.

Frederic the Great, we know, drew up a war-plan starting from this idea. He assumed, in compliance with the conditions then obtaining, England, Austria, Prussia, and Holland to be allied against France, which had her main army assembled in Flanders, while

protecting her other frontiers by special corps. In the face of this disposition, the King on his part wanted to assemble the main army of the allies in the north too. It was to advance from Brussels, and beat first of all the enemy's army supposed to be in Flanders; it was then to march off to the right, capture Dunkirk, Bergues, and Gravelingen, then base itself on Newport, Dunkirk, and the English fleet, and, turning nearly all the hostile frontier fortresses in the west, advance by Abbeville on Paris. The times have certainly changed since the great King designed this project, but the broad characteristic features in the conduct of war have remained the same, and so the idea underlying this plan of campaign would still retain its importance under similar political conditions even to-day.

The defence of colonies, too, whose coasts are insufficiently protected by fortifications can generally be only effected indirectly by acting offensively against the hostile fleet. By attacking and defeating it, with the object of destroying next the transport fleet, carrying the troops detailed to land and attack the trans-oceanic colonies, we can prevent the enemy from laying hands on them. If we are not strong enough to proceed in this manner, and if the colonies have not sufficient land forces of their own to ward off an attack themselves, we must abandon them for the time being, and may lose them sometimes altogether. The English would surely not hesitate to seize the German colonies in a war with Germany, and keep them should England remain victorious, in the same way as they once deprived Holland and France of their most valuable colonial possessions.

When considering the activity of the fleet and its effect on war by land, we must keep in view that the

defensive action of the fleet is ruled by laws altogether different from the procedure characterizing the defensive in a war by land.

On the sea we can act *strategically* on the offensive and defensive. In the first case we would search for and attack the hostile fleet, blockade the enemy's ports, try to reduce his coast defences, and do as much injury to his trade as possible. In the other case, however, we would await the opponent's attack, supported by our own coast and its resources, and try to prevent the enemy from carrying through his offensive intentions. The difference is solely one in the mode of *operation*, as occasioned by the intention of attacking or defending. But the difference between the offensive and defensive disappears in naval warfare altogether in *tactics*, in so far as that difference is not occasioned by a variety in the type of ships, because ground is wanting, and ground is the first requisite of any tactical defensive. Assailant and defender by sea make use of absolutely the same means under entirely the same conditions. If one fleet wished to await the attack standing still, it would be at once doomed. It will certainly happen that a fleet will be attacked by torpedo boats when at anchor or sailing, and defend itself against this attack. The distinction between attack and defence is here represented by the various types of ships. Torpedo boats can only act offensively, and battleships can only repulse them by artillery fire. This condition is never altered, even if the torpedo boats are engaged on the strategic defensive and the battleships on the offensive.

It is also quite possible that one party acts more offensively than the other; that one party attacks like Togo at Tsushima, and the other accepts the combat but under the stress of circumstances, like the Russians

in the same battle. That does not mean any difference at all in the mode of fighting, but merely a difference in the strategic intention, and sometimes in the energy of conducting the fight, which depends on personal qualities. In the same way is the less efficient fleet also obliged to accept the law from the enemy for its tactical procedure, and appears, therefore, more to defend than to attack, as can be traced throughout the whole Battle of Tsushima. But in situations like these the difference in the attitude is occasioned by the varying efficiency of the ships and not at all by the antagonism of attack and defense. Torpedo nets and mines may be looked upon as the only real defensive means in naval warfare. We can compare them with the obstacles and the system of mines in land defences. But the action of the fleet itself is entirely independent of them.

As regards the fleet, it can, even on the strategic defensive, act always tactically only on the offensive—that is to say it must put to sea and attack the hostile fleet if it means to fight at all. By sea there is only an active defence though it may be supported by mines and coast defences. The defending fleet has, in general, the *sole* advantage of being able to retreat, sometimes rapidly, under the shelter of its own land defences and of having its base directly behind it—that is to say, docks, workshops for repairs, ammunition, and coal depots, and so forth. It is supposed, of course, that the pivots on land are to some extent favourably situated with regard to the field of action of the fleet, which is, indeed, not always the case, but is naturally assumed to be so in theory. The attacking fleet is, on the other hand, often very far away from all these auxiliaries, and has therefore, in this respect,

to contend, as a rule, with far more difficult conditions than the defender.

In spite of the advantages which, as in war on land, benefit the strategic defensive, the strategic offensive remains, after all, superior by sea as well. It affords in naval warfare the same advantages as on land.

We can try to surprise the enemy, act in accordance with a definite plan designed by ourselves for the attainment of a clearly-defined object, force the enemy to have the *last hand* and enjoy the politically and morally important advantages of the initiative. We can also strive to block the hostile ports by rapidly laying mines, and thus not only hampering and endangering the enemy's trade, but also rendering the base of the hostile fleet unsafe. In the face of advantages of this kind, the defender—that is to say, the party which assumes at first an expectant attitude, and wants to make its action dependent on the measures of the adversary—is evidently, in so far, at a disadvantage, as it must prepare for an attack from every possible direction, and cannot, therefore, keep its forces from the outset concentrated, and engage them in a definite direction.

As a disadvantage of the strategic assailant can only be adduced the fact that his lines of operation and communication are often very long, not only rendering preservation of the fighting capacity of the fleet very difficult, but also offering the enemy numerous points of attack, which may in case of a tactical defeat become fatal. The perilous voyage of the Russian fleet under Rojdestvensky to Eastern Asia shows this danger in a striking manner. It is therefore obvious that the advantages of the strategic offensive must become all the more prominent the shorter the lines of operation with which the attack has to deal, and that the

length of the lines of operation may sometimes induce us to select the strategic defensive. Guarding the lines of communication and supplies absorbs very considerable forces, and may entail such a substantial weakening of the forces as to neutralize thereby the advantages of the offensive.

These reciprocal effects of strategic offensive and defensive are also, doubtless, one of the reasons why they always talk in England only about the growth of the German Navy, about the danger this means for England, but never about the stronger American Navy. The English know very well that, considered from a purely military point of view, an attack upon their island is very difficult to carry out from America, just on account of the distance, and that even they themselves can in a war become dangerous to America only through incurring the greatest sacrifices and exertions. A naval victory over Germany, on the other hand, situated as she is directly opposite the English coast, is much easier to achieve, promising success at a much smaller expense than one over America. With this latter competitor it is therefore much easier to remain on good terms; the other must be destroyed, if possible.

Conditions such as will obtain in a naval war between England and America make, however, no difference in the reciprocal effect of attack and defence by sea. They represent only a particular case, the peculiar circumstances of which must be taken into account in the application of the fundamental demands. Each of the two States would, in the case of war, have to consider whether the disadvantages of the long lines of operations would outweigh the advantages of a strategic offensive or not. The offensive itself remains, in spite of this, the real soul of war,

just as on land, and it is no doubt imperative to proceed offensively *as a matter of principle*, if the proportionate forces and the particular circumstances hold out the chance of success.

If we have to deal with a weaker adversary, or one equal to us, the resolve to attack, all things being otherwise approximately equal, will generally urge itself upon us. In a separate war of Germany against France or Russia, for instance, it would surely never enter the heads of the German naval authorities to wait for the attack of the enemy; but the enemy would no doubt be hunted up in his own waters, in spite of all the submarines defending particularly the French coast. But if the enemy is superior, the separation of his forces will give occasion to local victories. Every such occasion must be resolutely taken advantage of; nor must we, in such a case, be afraid of taking the enemy even by surprise, as the Japanese did take the Russians. Merely by their bold political and strategic offensive did they succeed in attacking the Russian naval forces when separated, in gaining thereby a decided superiority, and in permanently preventing a junction and effective activity of the Russian ships. It is a brilliant example of boldness and strength of resolution.

As separation of forces always entails the danger of small detachments being defeated in detail, we must try to escape this danger by using our own battle fleet as unitedly as possible, and keeping it as concentrated as we can, so that we may act with our full strength wherever we resolve to fight, and not expose ourselves in any case to be defeated in detail. There can generally be no such thing in naval warfare as conducting a delaying action, engaging the forces gradually, nor therefore detailing reserves. To begin

the combat with a portion of the forces, and then to engage the main body at the decisive point, is impossible on the sea. Numerical superiority has here a much more destructive effect than in war on land, because on water it is, much more than on land, a question of war machines fighting against each other. If many ships concentrate their fire on a few, then, all things being otherwise equal, the former have every chance of being successful. On water all the elements are wanting which on land may help the weaker to be superior; above all, the country is wanting which gives cover from fire and view, thereby affording the chance of deceiving the enemy about the direction and strength of the attack. On the open sea everybody has the same range of view, no ship can hide itself, and, all else being equal, the numerically stronger must be victorious.

It is therefore a principle in naval warfare *to unite the forces in space and time.*

From this point of view one can easily understand why the English have lately concentrated the bulk of their fleet in the North Sea. Owing to the extent of their colonial possessions and the necessity of having to guard the sea-route to India, they are obliged to divide their fleet. But opposite that State which they intend to fight first of all, they want to limit this division to the smallest possible minimum.

Concentration of the forces in space of time must, of course, not be understood to mean that there should be no detaching at all. Locally limited and isolated offensive strokes of cruisers or torpedo-boat flotillas will often be imperative, partly for reconnaissance, and partly for taking advantage of any particularly favourable opportunities the enemy may offer. Especially at the beginning of the war, and sometimes in peace even

—if there is no other means of defending oneself against superior force—it will be advisable to attack the enemy by torpedo and submarine boats, and to inflict upon him unexpected losses.

War upon the enemy's trade must also be early and, if possible, suddenly initiated, if valuable success is to be achieved. If the enemy is once prepared for it, he will turn his own auxiliary cruisers to account and warn his own trading vessels. The first and most important success can only be attained by surprise. This war must also be conducted as ruthlessly as possible, since only then, in addition to the material damage inflicted upon the enemy, the necessary terror is spread among the hostile merchant fleet, and thereby more injury done than by the capture of actual prizes. A certain amount of terrorism must be practised on the sea, making peaceable tradesmen stay in the safe harbours. It is customary, as a rule, to convoy prizes to the nearest port at home and to destroy them only in case of need, as is also provided for in the London Declaration. But the party with few naval pivots of its own in foreign waters will very often find itself in a position to assume its case to be one of need, and will then naturally destroy at once the hostile ships captured; short work must likewise generally be made of neutral ships carrying contraband. Mines which we intend to lay for disturbing hostile trade, or for barring the home waters, must also be held ready in peace-time, so as to be at once used at the beginning of the war.

The offensive fleet itself must, of course, be equipped with the requisite adjuncts of transport ships and reconnoitring organs. It will, before all, be important to organize a regular supply of coal and ammunition, and an early evacuation of sick and wounded, es-

pecially when the lines of operation are long. These things must be so regulated as to allow the squadrons to operate with perfect freedom. Their activity is under all circumstances decisive. Nor can any coast defences resist an attack for any length of time without the co-operation of the active fleet; they will succumb, and it will then be possible for the enemy to land troops on the coast attacked and to intervene in the land operations directly from the sea coast. The battle-fleet must therefore strive by all means to defeat the enemy, and to seek for a decisive issue, if in any way possible, especially when, by surprise or local victories, we have succeeded in weakening the hostile force right at the beginning of the war.

There may, however, be conditions making such action of the battle-fleet—challenging an issue—actually impossible; and this will be the case if one has to fight an enemy overwhelmingly strong, who has his forces united and ready for immediate action. In such a case a strategic offensive, seeking for a decisive issue, is no doubt inexpedient. It could only lead to the ruin of one's own fleet, without the chance of inflicting, in the hopeless struggle against superior numbers, losses upon the enemy even proportionately equal. The law of numbers rules on the water as well, and there are proportionate strengths making victory positively impossible.

But a great people, claiming a portion of international commerce and carrying its naval ensign over the ocean, must not even in such a case conduct the war without striving at least by every means after victory. It must never be satisfied with a mere passive defence; it must, in spite of the enemy, always try to gain and maintain the high sea victoriously.

When the Carthaginians, powerful at sea, attacked

Rome, a military State, to break its rising power and nip it in the bud, the Romans did not confine themselves to mere defence, but they built a fleet, defeated that of the Carthaginians, and carried the war into Africa. Now things have indeed very materially changed compared with formerly. To-day a fleet can no longer be created during war, on the spur of the moment, as the Romans could at that time, when naval architecture was a comparatively simple thing. To create a fleet now is rather a long and tedious process, the enemy having plenty of time to adopt all his counter-measures. One cannot, therefore, hope to augment the number of available ships to any substantial extent during the war itself; yet, by the mode of conducting the war, one can try to bring about by degrees an equalization of the forces, and thus, perhaps, make it possible to fight under more favorable conditions the decisive battle avoided at the beginning of the war.

This, I think, can only be achieved with the aid of the coast defences. The latter gain thereby an importance which goes far beyond the notion of a pure measure of protection. They become an active factor in naval warfare. The enemy must reckon with them as if with an active force. He has now two ways open by which he can try to fight down the defender—the blockade and the attack.

Keeping up a blockade makes very great demands upon a blockading fleet; that service is exceedingly exhausting, and all the more so when the enemy controls a battle-fleet which takes an active part in the coast defence, and when the blockading line's naval base is far away. The blockading fleet cannot continually keep to the high seas. It must generally confine itself to watching keenly the hostile coast with a

number of ships, remaining with the bulk of the battle-fleet at a safe naval pivot behind the line of observation, so as to oppose thence any hostile sorties. If there are no such pivots within easy reach of the fleet, it will try to seize such pivots in close proximity to the coast blockaded—perhaps a suitable island, or a point on the hostile coast itself.

The defender, on his part, will turn these circumstances as much to his advantage as possible. He will first of all occupy, and if feasible fortify, at any rate obstinately defend, all those points which would suit the enemy as pivots; he will, further, strive to keep the blockading fleet continuously on the alert by constant, and, if possible, sudden attacks, especially at night, partly with submarines and torpedo boats, partly also with the battle-fleet itself, inflicting upon it as many losses as is ever possible, but always breaking the action off when the enemy succeeds in uniting superior forces against the ships making the sortie. With successful reconnaissance it will, no doubt, be possible to assail the enemy with advantage at times, when he has weakened himself at one or the other place. A blockade by its nature necessitates a certain amount of division of forces, while the defender's fleet can lie always concentrated at safe anchorages, ready to make a sortie.

A blockade of this sort will no doubt exact from the assailant great exertions, severely strain his ships, and entail heavy losses. It is therefore not to be anticipated that he will, and can, confine himself to conducting the war in this indecisive fashion. He must therefore, sooner or later, make up his mind to attack the coast defences and mining fields, so as to capture the enemy's naval bases and destroy the hostile fleet itself.

It is obvious that this is no easy matter. The defender's howitzer batteries, being perfectly concealed, are difficult to fight from the fleet, which is only equipped with guns for direct fire, whereas the coast howitzers can inflict most serious losses by their indirect fire upon the ships of the assailant. Torpedo and submarine attacks may also be successful, because, the channels being known to the defender, the opponent must move in them with great caution. There seems to be no doubt that the assailant is bound to suffer heavily in such warfare. If he succeeds in supporting the naval attack by landing corps and advancing to attack the pivots of the defender, they must be opposed by the coast-defence troops. Considering this danger, it is important to fortify the naval pivots on the land side, at least hastily, so as to be prepared for such a combined attack and not to succumb to it. Such attempts at landing in support of an attack by sea are, for the rest, rather dangerous enterprises. If the attack of the fleet is successfully repulsed, and if the fleet of the defender sallies forth at the decisive moment for a counter-attack, re-embarkation of the detachments landed may sometimes be seriously endangered.

No proof is needed that, under such circumstances, reconnaissance is of the utmost importance for the assailant as well as for the defender. Reconnaissance alone can inform the former of the position of the hostile works, the effect of his own fire, and the movements of the hostile fleet, and give the defender the chance of selecting favourable moments for attacking. But the latter will, in the face of the enemy's superiority, be unable to secure the necessary intelligence by ships alone; he will rather have to make extensive use of reconnaissance by air. In that branch he is,

as we have seen, superior to the assailant. He must therefore resolutely attack hostile airships and flying-machines appearing at the coast, and beat them off with anti-balloon guns. If we succeed in developing aerial navigation to use airships also for purposes of bombardment, it would create a new element of superiority for coast defence, it being very difficult to start enterprises of this sort from the attacking fleet, whereas airships and flying-machines can always easily ascend from the coast, and reach the hostile offensive fleet in a very short time.

If we now survey all the difficulties accruing to the assailant in his blockade and attack upon a well-defended and fortified coast, and if, on the other hand, we consider how comparatively favourable the conditions are under which the war can be conducted by the defender in a situation like this, we can very well imagine that even a great superiority in ships will gradually dwindle away, and that ultimately a state of affairs may be created in which the original difference in force seems to be equalized, and that the ideal state in Beseler's fortress-defence has arrived—namely, “that the assailant will become defender and the vanquished.”

If that moment seems to have arrived, the battle-fleet of the hitherto defender must put to sea and fight the decisive battle. If during its long, wearisome struggle on the coast the fleet has succeeded in gaining and maintaining moral superiority over the attacker, if it has inflicted heavy material injury on him and broken the elasticity of his will to conquer, then it will come out victorious in this combat. But if the attacker has endured all hardships of the blockade and of the attack on the coast with unbroken courage, and if, in spite of all losses, he maintains a substantial

numerical superiority, he may also in this last combat gain a victory and thus bring about a decision in his favor.

It can scarcely be doubted that in such a war not only the material forces will decide, but also the spirit in which they are used, and the spirit of the nations who have sent their sons to fight will weigh decisively in the scale of victory. No doubt the quality of armour and the effect of projectiles, as well as the power and speed of the ships, will most effectively assert themselves; but where the factors of victory are, to some extent at least, balanced, the persevering vigour and energy of attack, ruthless sacrifice of human life, unyielding will to conquer, and, lastly, the spirit and genius of command, will decide.

Let us hope that if our German fleet is called one day to fight it will appear on the stage of the world with as surprising and decisive an effect as the Prussian Army, in 1866, which, being raised by universal service, had then been completely misjudged.

CHAPTER XII

RETROSPECT AND PROSPECT

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WHEN I began to put together and arrange in proper order the works and thoughts which had over and over again occupied my mind whilst studying military events, as well as whilst doing duty and training officers and men; when I tried to see clear in this enterprise, in what my work should really culminate, to what result it should lead, the demand urged itself spontaneously to discover, not only the nature of war of to-day in theory, but also to develop from this cognition a *superior principle* of action, and to arrive at a standpoint whence we can exactly judge of all the various military questions in their reciprocal effect, and thus of their real importance for the conduct of war. It seemed to me that should we succeed in solving this problem, and in acting upon this solution, not only in war itself, but also in preparing war in a definite direction, we ought to gain superiority over opponents who are proceeding in a manner less rational and critical, who therefore, perhaps, persist in a mechanical conception of a war with masses, and expect the final solution of many important tactical and strategic questions from the war of the future itself. It seemed to me possible and useful to conduct war from the outset in accordance with distinct principles recognized *a priori*, and to master spiritually the powerful forces bound to be let loose in it, instead

of leaving them to their innate impulses, in opposition to the Italian general who insists that in a war of the future only the original direction given to the masses can be intended, but that afterwards "the stream will, so to say, move on automatically." * It seemed to me that particularly we Germans, if we once take up arms, must not hand over our armies to this stream of automatic movement and thus to chance, as it were, because we shall be obliged to fight against enemies far superior in numbers, and shall therefore need spiritual superiority to equalize the numerical one.

It was in pursuance of this idea that, starting from the most striking military phenomena of modern times, I followed up my reflections, and now, having arrived at the end of my investigations, the question faces me whether I have attained the object set, and whether from the inquiries and discussions instituted a result can be extracted which is of importance as a guide for the preparation and conduct of war, and which may, as a principle of action, guarantee a certain amount of superiority over our enemies. The answer must, from what I have tried to develop, result as it were of its own accord; and if I have succeeded in giving clear and convincing expression to my thoughts, the reader, having closely followed them, must during their development have himself arrived at the conclusions resulting from the nature of things, and at which I also have arrived in the course of this investigation. I shall try to summarize briefly the conclusions I have come to.

If we look back to the description I tried to give in the preceding pages of the modern conditions of war, we soon recognize that there are virtually three

* General Count Luchino Del Mayno, "Ueber die Million-enheere," "Deutsche Revue," September, 1911.

factors pressing a distinct stamp on war of to-day—the masses, the improved arms of defence and offence, and the modern means of communication. These phenomena are of so dominating a nature that the whole investigation had to start from them. But if we view the effects of these factors upon the conduct of war in their totality, it is seen that on the one side they are promoting power, but on the other, again, that they have a paralysing effect, and are a hindrance to freedom of action. They represent factors of force, but also of weakness. Of this fact we must remain conscious, to judge correctly of their importance.

The masses mobilized to-day for war entail the obvious advantage of all the vital forces of a people being called to arms, and of the State having at its disposal for conducting war a material of men all but inexhaustible. But masses comprise the danger of troops deteriorating in the military value which rests on training, on traditional discipline, and on the firm bonds between superior and subordinate, the masses thus becoming sometimes a danger to themselves. The size of the armies, moreover, renders strategic mobility difficult, and necessitates subsistence from depots.

The improved weapons evidently benefit the conduct of war, by the fact that they produce extraordinary material and moral effects; but this, on the other hand, has led to all closed formations being abandoned, has caused actions to be fought at very much greater distances than formerly, and has forced the troops to be careful of cover and protective means to an enhanced degree. The conduct of an action is thereby rendered exceedingly difficult, especially for the attacker, and forms of fighting have thereby been created antagonistic to conducting an action vigor-

ously. But if we consider the reciprocal effect of mass and weapon, we see that less disciplined troops will, on the average, be opposed to increased effect of the latter—that therefore in spite of improvements of arms, we may expect tactical performances to be inferior.

The means of communication of modern times, railways and motors, facilitate movements of masses, enhancing their mobility; but they, on the other hand, tie the masses to permanent railways and regular roads, also to field-railways when they try to follow the movements of troops.

Modern communication service, lastly, facilitates, no doubt, reconnaissance, transmission of orders and intelligence but also creates new spheres of action, thus complicating the conduct of war still further, and rendering surprise difficult, which in former times so often ensured success.

These so contradictory conditions have caused the frontal defensive on the one hand, and the deliberate strategic offensive on the other, to be much stronger than formerly—the former because it has above all benefited by the effect of arms and country, and the latter because the fact is chiefly to its advantage that in the more extensive theatres of war of large armies, and owing to the linear forms of strategy and tactics resulting from the effects of the arms, the chances of improvised operations have more and more dwindled away.

In contrast with these altered manifestations of war, the factors of success, rooted in the nature of war itself, have remained the same. Courage and boldness are still of decisive importance to-day—well-trained and well-led troops perform still infinitely more to-day than troops less disciplined and badly employed; the

assailant is still superior to the defender to-day by the fact that to him is left the choice of the direction of attack, and the chance of concentrating forces by surprise, and that he can more uniformly and firmly strain all moral elements; the spiritual and moral factors of force are to-day still superior to the material ones of numbers and armaments.

If in the midst of this abundance of antagonistic elements and effects we wish to find or pave the road to victory, we must not leave things to take their own course, their "automatic" development. That would lead to a purely mechanical competition, in which there is no spiritual preponderance apparent. Everybody would try to beat his opponent by the mass of his army, by the quality and number of his arms, and by the improvement of the means of transport and communication; the increased desire for protection would lead to still greater extension of the battle-fields and theatres of war; all material forces would increase immensely; but in this general levy would disappear more and more the mental and moral factors of success, while in reality it is just the spiritual superiority to which they open a wide field to manifest themselves.

We must set our face against this seemingly natural development, which would lead to destruction and victory of the material forces over the highest and noblest faculties of the peoples. We must strive, above all, to make *those* elements subservient to us which are apt to increase the energy in the conduct of war, but to limit and neutralize as much as possible the effect of paralyzing and weakening factors.

If we regard from this point of view the most essential manifestations of war of to-day in their reciprocal effect, we shall, I believe, arrive at the conclusion

that, above all, two elements will prove in a war of the future decisive and determine the issue just because they are antagonistic to the seemingly natural development of things—namely, *the military and moral value of the troops and their strategic efficiency.*

The main disadvantage of the armies of masses is, I believe to have convincingly proved, due to their inferior value in marching and fighting, to their inferior mobility, and to their unwieldiness for strategic operations. The party, therefore, which is in command of better troops and more efficient for operations than the opposing one will attain an undoubted superiority.

If, moreover, improved arms produce greater material and moral effects than the inferior arms of former wars, the party must again have an advantage which with equal armaments brings a superior kind of troops into action—that is to say, troops which can stand severer losses, have greater offensive power, and are less affected by moral shocks.

Troops more efficient for operating—that is to say, troops that can march better, can stand greater exertions and privations, and have a more efficient transport service—will be more independent of railways and roads than troops less mobile and less enduring; they will therefore be able to operate more freely than the latter, and thus again obtain an advantage over their opponent. They will make a better use of the results of reconnaissance, too, and have more prospects of achieving successes by surprise than their opponent, if less mobile and less efficient to strike.

Now, people may certainly reply that the same factors of superiority also existed formerly, and achieved successes in former wars. I do not mean to deny this at all; but what I maintain, on the other hand, and

what I believe to have proved, is that the tactical and operative efficiency of the troops—in face of the masses of modern armies, which in general are worse trained and more unwieldy—has *gained* to-day in significance; this efficiency constitutes *a comparatively very much more superior factor of superiority* than formerly. That constitutes its decisive importance.

There is, in like sense, another factor of extraordinary significance. I think to have irrefutably proved that the attack is not only by itself the stronger form of warfare, but that it has in a war of to-day and under modern conditions gained in superiority. But this superiority chiefly rests on strategic conditions. The assailant has, owing to the prerogative of initiative, a start in space and time, which even an equally mobile opponent cannot, as a rule, make good any longer. If he is now, in addition, quicker in his operations than the latter, and has better troops, the original superiority is *enhanced* by the fact that he can move quicker and be victorious in action quicker than an equally-matched opponent. If it is an incontestable principle in warfare that we should always try to act offensively, we can act in accordance with it all the more successfully, the more mobile and the more efficient the troops we command. On these two qualities of an army depends freedom of action, by which alone the conduct of war can develop into an art, and in which boldness and heroism thrive. These rank before numbers.

The latter remain, nevertheless, always a substantial factor of success. The law of numbers* remains unaltered, and cannot be violated unpunished. Nor must we ever reduce the number of troops to such an extent as to allow the hostile masses to cross the frontiers

* Vol. i., book ii., chap. ii., p. 91.

without meeting everywhere with resistance, and without being stubbornly fought. But within these limits it is infinitely more important and more valuable to have efficient troops than large masses. This truth stands out all the more boldly the more we realize the importance of time and of the decisive direction.

The side which gains a victory in the decisive direction is placed in a strategic position whence it can fight the enemy's secondary armies under the most favourable conditions, no matter whether it has gained the flank of the hostile army or pierced its front. He who gains this victory *before* the enemy has achieved on his part success on the secondary fronts enjoys the further advantage of being able to co-operate in the combats afterward with the undefeated troops of the other strategic fronts, and of thus having greater prospects of more successes. But defeats, too, suffered, perhaps, in portions of the theatre of war, away from the decisive direction, are by this victory in the main issue squared up and compensated for. That victory dominates the whole theatre of war. But to gain it rapidly—particularly when it must be fought by a frontal attack—is only possible if by greater strategic mobility we can unexpectedly unite superior forces in the decisive direction, if we can defeat the enemy in action in as short a time as possible by the superior efficiency of our troops, and if, after the victory, we are able to take advantage of the favourable situation by our further operations. This superiority leaves no doubt of what the principle of action should be. It is inherent in the nature of war itself* that we must proceed offensively as far as circumstances will ever admit; we *must strive to gain a victory as rapidly as possible at the decisive spot by a sudden strategic con-*

* Vol. ii., book iv., chap. iii., p. 211.

centration of the forces in the direction thought to be decisive, and then to take advantage of it with the utmost energy, tactically and strategically. We must always make efforts to create by our operations favourable conditions for battle.

No proof is needed that such a mode of action will only prove superior, and also give the numerically weaker the chance of being successful, if we excel the enemy in military value and strategic mobility of our troops. If this is not the case, then the enemy, if he acts according to the same principle, has the same prospects of success, and numbers will decide.

I think, therefore, that I may be allowed to state distinctly that *in a future war that side will obviously have an advantage which in organization and training of its army has most logically taken these two factors into account*, has resolutely subordinated to them all other considerations, and has thereby succeeded in having an army which *no other equals in tactical efficiency and strategic mobility*. But that commander will not prove a "modern Alexander" who from his "comfortable arm-chair" tries to inspire uncounted numbers through the telephone; but he will who—of course in substance only—leads a phalanx against the enemy such as at one time victoriously followed the imperious will of Alexander the Great against the superior host of the Persian Empire, or followed the genius of Frederic the Great against the united forces of Europe.

That is the result of my studies, and at the same time my unshakable conviction.

But if in this regard I am not at all mistaken, if what I see so clearly before my eyes convinces also others, and holds its own in the conflict of opinions, it is the duty of the supreme military authorities to

prepare war from this point of view, to judge every single military question from it alone, and to undertake or sanction nothing that is not subservient, or—worse—opposed to it. The idea of enhancing the offensive power of the army by increasing the efficiency of the troops and their strategic mobility must, then, be the leading one, dominating all the labours in peace for war.

To comply with this demand is no easy task. It makes the highest claims on a nation's willingness to make sacrifices for military purposes. To point out how this must manifest itself in detail would lead me here too far; by its comprehensive importance it is a subject for an independent work. I shall but briefly direct attention in what follows to the most important points.

It is first of all a matter of coming to an understanding with regard to the question of masses. By constantly raising new Reserve and Landwehr formations, by training Ersatz-Reservists and suchlike make-shifts, which we can make use of to compensate for, or, more than that, excel in numbers a likely adversary, in spite of a comparatively small peace army, it is evidently impossible to attain superiority over an enemy. The more such formations we establish the more inferior will they become, but the more they will weaken the regular army, which must be drained of its blood to infuse any life at all into the new formations. We must rather resolve to limit these inferior formations as much as possible, and only establish the number absolutely requisite for containing the general levies of the enemy on the secondary strategic fronts. But we must instead augment the troops of the line and the firmly-knit peace formations, so as to be able to fight on the decisive battlefield with tactical and

moral superiority. *Future salvation lies in concentration of strength, not in widely spreading it, fully conscious that this is in opposition to the theory of masses in modern times.*

It is, secondly, a matter of making the troops which go afield fit for the strategic operations. In so far as this fitness depends on the march performances, it is already determined by the kind of troops itself. The line regiment, brought up to war strength by the youngest classes of reserves, will march infinitely better than a Landwehr unit composed of family fathers full of care. But apart from the proficiency in marching, strategic mobility depends directly on how supplies are regulated.

When organizing the army we must first of all keep in view that the larger units to which are generally assigned one road—the army corps—must not go beyond a certain strength. They must not in simple column of route become so deep as to prevent their being continuously subsisted from the rear. I think the utmost permissible limit is attained by a depth of 25 kilometres of the column. We must not, therefore, indiscriminately load the army corps with new subsidiary services—with artillery, ammunition columns, air-detachments, and so forth. The seeming additional strength is none such at all if the efficiency of the troops to march and to operate is thereby impaired. The advantage of being able to meet each hostile army corps with an equally strong or even stronger corps goes for nothing if one army succeeds in uniting on the decisive field of battle, by more efficient operations, five or six corps, somewhat weaker, but fresh and well supplied, whilst the other can bring up perhaps only three of them, which by themselves are stronger, but taken altogether are weaker than the enemy's, and

have constantly had to contend with difficulties of supply.

We must, therefore, know how to limit ourselves in regard to depth of march columns and strength of army corps if we wish to preserve strategic mobility; and we must not mind the seeming sacrifice in fighting power which may thereby be demanded.

The transport service of the troops must next be organized in such a way as to permit the daily and frictionless supply of the troops being unhesitatingly and permanently carried through. I have already pointed out in another chapter that with this object we would do well to form the supply columns of the army corps into corps and divisional units, and not to organize them in a series of successive lines behind the whole force. It is also important to keep the transport service itself as mobile as possible, so that it can follow all the operations forward and backward. Corps and divisions not equipped with a transport service efficient in this respect, and organized for active service, are positively useless for a great modern war, as they would only paralyse the strategic mobility of the other troops, and therefore, as a rule, do more injury than good. Formations which cannot be furnished with the necessary transport are better not raised at all, or, at least, used only in local defence on secondary points, where they can live, partly at least, on the country. That to the cavalry also, if it is to be of any use at all, columns must be attached suiting its peculiar character needs, of course, no further mentioning; and it is as obvious that not only the troops themselves must be provided with the necessary transport service, but also that the lines of communication must be able to follow the march of the columns of the army with the requisite depots. The

railroads, be they trunk-lines or field-railways, must follow the troops as closely as possible, or be replaced by mechanical transport, motors, etc., designed to keep up the traffic between regimental transports and rail-heads. We must, lastly, take care that in war itself the roads are not encumbered with unauthorized transport. I can still vividly recall to my mind the long rows of knapsack-wagons, the long columns of cattle, of the voluntary ambulances, of the endless wagon-park of General Headquarters, of the tent-wagons which one cavalry division had with it, of the innumerable wagons requisitioned by the troops for carrying supplies—all of which followed the army to Sedan. Had there been a retreat, it would have been impossible to preserve order and strategic mobility with a crowd like this. A nuisance of this sort must be sternly suppressed in future.

If with all these means we succeed in raising the strategic mobility of the troops to the highest possible pitch, we can only make the fullest use of this decisive advantage if we are informed in time of the enemy's measures by rapid and reliable reconnaissance. It is therefore imperative to prepare particularly carefully beforehand all the means serving for reconnaissance; before all things, therefore, to have a numerous and efficient cavalry, able to screen the movements of our own army and defeat the opposing cavalry, so as to carry on reconnaissance successfully. But we must at the same time by all means train the aerial fleet and develop the means of communication, particularly those which do not depend on conductors—above all, therefore, visual signalling and wireless telegraphy. If we should succeed in developing the latter so that it can be extensively used by the troops, it would mean a great advance in raising their strategic mobility.

Striving in this way to create favourable conditions for the strategic operations of our own troops, we must, on the other hand; endeavour to paralyse the enemy's mobility. For this, too, the cavalry is the proper means, if it is able to cut the communications in rear of the enemy's army, thus preventing it being regularly supplied. In opposition to the generally accepted view, *that army will, in consequence of these conditions, have a distinct advantage which has a strong, efficient, and superior cavalry*, and understands how to use it in a strategic sense. The low estimation in which it is everywhere customary to hold this arm to-day is solely due to the fact that people insist upon wishing to use the cavalry as an arm for battle and for charging, while they do not understand how to use it strategically, nor have organized it at all with that object. But that it can be employed in this sphere to the greatest advantage and can also conduct a vigorous fire-fight without being unduly hampered by its horses or losing them, is sufficiently proved by the American War of Secession and by the South African War. I am therefore of opinion that those who guide the army, and who correctly discern the nature of modern war, must consider it as one of their most paramount duties greatly to augment the cavalry, and to see that there is always a sufficient supply of horses. The next war will confirm the correctness of this view.

All other military questions must be subordinated to the broad points here characterized with a few strokes; they must be solved from these points of view if an army is to come up to the requirements demanded by a war of to-day. The land and coast defences, too, must be completed in the spirit of offen-

sive warfare, and must nowhere assume the character of a mere defensive measure.

The issue of the next European war hangs in the balance of strategic offensive; but only that State will derive all the advantages from it which knows how to initiate the war under auspicious political circumstances, and thus to create favourable conditions for the military action itself. The grouping of the neighbouring States, brought about by policy, and the choice of the moment for beginning the war, broadly create the conditions under which the war must be waged, and these may be decisive for its whole course. Nor can an army be permanently kept at its highest point of efficiency. Any bow may snap if the string is always pulled without darting the arrow at the right moment. And so also will an army which is always used only to keep the peace, and not to conduct a war at the right moment, lose within a measurable time its mental elasticity, and with it its efficiency—just the same as a nation whose power is not put in action for the attainment of great aims and objects will gradually forfeit this power and fossilize in its comfortable, peaceful habits and narrow circles of personal interests. Policy must reckon with these factors and take advantage of the culminating-point of development when a favourable political constellation in the world invites thereto, and thus procure the people and the State wider spheres of action and ensure their sound development.

In the regions of political strategy the law of initiative rules too; it creates material and moral values of superiority which turn into military advantages if policy leads to war. "No doubt no man, unless he is an idiot, will leave his enemies time calmly to adopt his measures to destroy him, but take advantage of

his start," wrote Frederic the Great to Pitt on July 3, 1761, and in another place he said: "Is the term 'assailant' such a terrible one? It is a scarecrow to frighten cowards only." His doctrines, which he confirms by deeds, remain immortal, and should always serve virile statecraft as a guide in our days too. The political initiative must then, of course, be followed up by a corresponding military initiative. The war must be actually a continuation of policy, certainly by other means, yet in the same spirit of ready initiative. But if a bold policy ends with a cautious defensive conduct of the war, which leaves the enemy time to adopt his political and military counter-measures, it can scarcely expect to be successful.

When the Boers sent their ultimatum to the English they acted in Frederician spirit. But when this bold political step was followed by but a halting offensive, and when they thought they could combine a strategic attack with a tactical defensive, they came in conflict with themselves, and the military consequences could not fail to follow. A counterpart of this mode of action is the attitude of the Japanese. Their policy, too, was pervaded by Frederician spirit, when they boldly flung down the gauntlet to Russia. But the political deed was followed by military action. By an unbroken offensive they tried to make full use of the military advantages they had made sure of by their political initiative; and their success showed they were right. It was, above all, their boldness which paralysed the arm of their far superior enemy, and made them by one stroke the dominating race of Eastern Asia, the same as I hope the German people will assert and maintain itself as the dominating race of Europe.

That such a dream of the future can only be realized

if we constantly retain political and military initiative needs no further proof for him who has become convinced by my expositions. We must strive with every means to uphold our military supremacy, and if we realize, on the one hand, the dangers threatening us from all sides, and on the other the loftiness of the problems which seem to be in store for us in the future as a political power and a civilized nation, then will also awaken in the soul of our people that self-sacrificing spirit which this injunction demands from us.

I believe in the German people; I believe that a great future is in store for it, and that it has to accomplish a high calling in the development of mankind. But it can only put this task to good account if it exerts its military strength to the utmost, and if its policy, while placing its aims high and not afraid of dangerous paths, remains conscious of the truth that, as in war, so also in the political intercourse of States, the will and action alone can achieve great things, and that in all human affairs the words of the poet hold good:

“Im Anfang war die Tat.” *

* “Action was the beginning of everything.”—*Translator.*

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